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Degree: Master of Science

Year This Degree Granted: 2001

University of Alberta

INFLUENCE OF DESIGN DECISIONS ON CONCRETE BRIDGE DECK DETERIORATION

by

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A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of Master of Science

in

Structural Engineering

Department of Civil and Environmental Engineering

Edmonton, Alberta

Fall, 2001

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Influence of Design Decisions on Concrete Bridge Deck Deterioration submitted by Matthew Spratlin in partial fulfillment of the requirements for the degree of Master of Science in Structural Engineering.

ABSTRACT

The effects of bridge design parameters on the deterioration of concrete bridge decks in Alberta are investigated. Deterioration is quantified with copper-sulphate electrode (CSE) test results for 460 bridges. Decks are rehabilitated after approximately 20 to 30 years for steel and concrete girders respectively. Decks on simple span bridges have significantly lower corrosion levels than decks on continuous spans. There is poor correlation between concrete cover thickness and CSE readings in bridge decks 20 to 35 years old when decks are cracked. Most bridge decks are cracked. In such situations, one may conclude that, if increasing the depth of cover has little influence on corrosion, improving the quality of the concrete cover will have little influence on CSE readings. The use of waterproof membranes and crack control measures is recommended. Other factors showing a lesser influence on deterioration include maintenance and rehabilitation, transverse span-to-depth ratio, longitudinal bar spacing, and girder stiffness.

ACKNOWLEDGEMENT

As the author, I would like to thank the Natural Sciences and Engineering Research Council of Canada (NSERC) and Earth Tech Canada for their generous financial support of this project. I would like to express my sincere appreciation towards Alberta Transportation, whose hard work and dedication over the past 14 years made this project possible.

I would also like to thank Dr. D.M. Rogowsky, Dr. S.D.B. Alexander, Dr. A.E. Peterson, Paul Carter, Gary Kriviak, Dilip Dasmohapatra, Peter Onyshko, Kara Hurtig, Julia Blackburn, Mark D'Andrea, Neil Robson, and Oliver Youzwishen, as well as Jennifer, my parents, and the rest of my friends and family for their help, inspiration, knowledge, support, and motivation.

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CHAPTER 1
INTRODUCTION

1.1 Problem Statement

The deterioration of bridges built over the last 30 to 40 years has led to increased maintenance costs (Somerville, 1998). Design choices for the majority of bridges in North America have traditionally been based on economics. Initially, design choices were based on lowest initial cost. This led to the construction of many bridges with poor durability. More recently, designs have been based on lowest life cycle cost analyses that take into account the initial cost of construction as well as the cost of future rehabilitation and maintenance. While the initial cost of construction can be influenced by a number of factors, rehabilitation and maintenance costs are influenced primarily by the deterioration of the bridge deck. In addition to traffic and deicing salts, the deterioration of the bridge deck is closely related to deck cracking, which is most heavily influenced by design choices made prior to the construction of the bridge (Ramey et. al., 1997a). The actual influence of these choices is not well understood or appreciated. A better understanding of how choices made during the design phase of a bridge project affect the future deterioration of the bridge deck will allow engineers and project managers to make more informed decisions concerning the future durability of a structure (Jacobs, 1986). This better understanding will also provide for more accurate life cycle cost analyses, and more efficient management of infrastructure inventories.

The four main types of deterioration associated with bridge decks are scaling, cracking, spalling, and delamination (Sotiropoulous and GangaRao, 1993). The later three types of deterioration are generally of greatest concern from a structural point of view, and are the ones that structural designers can play the biggest role in preventing. Scaling is the deterioration of cement paste at the surface of concrete members. It gives the concrete a pockmarked appearance and is generally caused by poor material quality, improper finishing, chemical attack, and abrasion. Scaling of bridge decks is generally not a major concern as the small loss of cross section rarely presents a structural hazard. Delamination, cracking, and spalling, can lead to problems that are more serious. In many cases the cause of delamination, cracking, and spalling can be traced to a single source: corrosion of the top mat of reinforcing steel. Other factors such as tensile stresses, impact forces, and freeze thaw can also cause delamination, cracking, and spalling. By limiting these other factors, the rate of deterioration of the bridge deck can be more effectively controlled.

The durability of exposed concrete depends largely on its ability to resist the penetration of water and other aggressive solutions (Ozyildirim, 1998). The highly alkaline environment within concrete passivates steel and prevents it from corroding (Gene, 1995; Yoemans, 1994).

Substances such as salt, carbon dioxide, and acid rain lower the pH of concrete (Carter, 1989), eliminating its passivating effects and providing an environment favorable to corrosion. On bridge decks, salts from de-icing chemicals reduce the pH of concrete causing corrosion of the reinforcing steel embedded within it. In uncracked concrete, several years may pass before corrosion of the steel is initiated as salt solutions slowly migrate through the concrete cover. Following its initiation, corrosion proceeds slowly as other necessary elements (oxygen and moisture) are in short supply. As the steel corrodes it expands by as much as a factor of eight (Gene, 1995), cracking the surrounding concrete. These cracks eventually migrate to the surface of the concrete, providing a direct path to the steel for salt solutions and oxygen. At this point the rate of corrosion accelerates dramatically, as does the rate at which the deck deteriorates. Cracking of the concrete due to live load and environmental stresses puts an end to the slow progression of the earlier stages of deterioration and immediately initiates the accelerated, post-cracking rate of deterioration.

Traditionally, the prevention of deck cracking has not been a high priority for designers. Although technological advances have allowed engineers to become more aggressive with girder designs, the continued use of traditional standard deck designs may have contributed to the increased levels of cracking in some populations of bridges. In order to reduce the occurrence of cracking and slow the rate of deterioration, those elements of design that lend themselves to bridge deck cracking need to be identified and understood. With a continually increasing number of bridges to be managed, and a large percentage of older bridges reaching the end of their service lives, it will not be acceptable nor feasible for the next generation of bridges to suffer the same rate of bridge deck deterioration as the bridges of today.

1.2 Research Objectives

The objective of this research is to identify the choices a bridge designer can make to extend the life of a concrete bridge deck. This report will focus on structural design choices because this is where designers have the greatest control over variables that may affect deterioration (Ramey and Wright, 1997a). Factors such as superstructure type, continuity, girder stiffness, deck thickness, span to depth ratios, cover, skew, reinforcing steel, and diaphragms, will be studied. The effect of traffic volumes, salt application, climate, and other uncontrollable variables will not be studied. The effects of maintenance will be looked at in order to help explain visible trends in data. Since older bridges will invariably be rehabilitated, trends in older bridge decks are likely to demonstrate different behaviour than new bridge decks.

The bulk of the research was carried out on data obtained from the Province of Alberta, thus the results are most relevant within the context of Alberta bridges. Dunker and Rabbat (1990b) have shown that operating and maintenance policies significantly affect bridge performance. Alberta

Transportation (the provincial transportation authority for the Province of Alberta) employs a proactive maintenance strategy to manage their bridge inventory. Favoring rehabilitation over replacement, large-scale preventative maintenance is often undertaken before any visual damage presents itself. Deterioration trends are hence noticeably different from those in regions employing different maintenance strategies. The climate in Alberta is also unique in that infrastructure is exposed to large temperature variations, a modest number of freeze-thaw cycles, a wide range of deicing salt applications, and relatively low humidity and precipitation levels. In other climates, deterioration mechanisms may differ from those in Alberta where corrosion of the top mat of reinforcing steel predominates.

1.3 Outline of Problem Solution

It will be demonstrated that there are several choices a bridge designer can make to extend the life of a bridge deck. Several steps are undertaken in this project to determine the relative influence of each design parameter on the deterioration of concrete bridge decks. The complete project methodology is described in Chapter 3.

A literature review was conducted to determine the current state of knowledge on the deterioration of concrete bridge decks, and to help establish an appropriate scope for this project. Two broad-based studies on bridge deterioration were reviewed. Dunker and Rabbat investigated deterioration on a national level, while Ramey and Wright conducted their research on a regional population of bridges. A large number of independent studies were also reviewed to assess the influence of design on a factor-by-factor basis. The literature review is presented in Chapter 2, and a list of the cited literature can be found at the end of the thesis.

Copper sulphate electrode (CSE) test results are used as an objective measurement of concrete bridge deck deterioration due to corrosion. CSE testing is a non-invasive test which measures the potential between a probe, consisting of a copper – copper-sulphate half cell, placed on the surface of the bridge deck and the reinforcing bars embedded within the bridge deck, with which the probe is electrically continuous. The potential readings are then correlated to corrosion levels within the steel. The Province of Alberta has had a CSE testing program in place since the mid 1970's, and has collected and tabulated corrosion data on approximately 1000 bridges. Many bridges have had CSE testing carried out on five or more occasions over a period spanning in excess of twenty years. The CSE test procedure is further outlined in § 3.2.

In order to efficiently manage the vast quantities of data involved in this project, a relational database was constructed in Microsoft Access. Inventory and test data was separated into several tables, all of which were related to one another through a common field. Once

completed, queries were used to create several subpopulations of bridges based on individual design characteristics. A complete description of the Access database can be found in § 3.3.

Scatter plots are used to investigate correlations between design choices and CSE readings. CSE test results for mutually exclusive populations of bridges are plotted together against the age of the deck in order to determine differences between the deterioration trends of the two groups. Where quantifiable measurements of the physical characteristics of the bridge exist, CSE is plotted against the design trait to determine whether deterioration varies within a specific design family. A further description of the investigation for correlation can be found in § 3.4.

A statistical investigation is undertaken in situations showing stronger correlations. In addition to the regression analysis and calculation of the coefficient of determination, an analysis of variance (ANOVA) and/or significance testing is performed. A complete outline of the statistical investigation is located in § 3.5. The investigation into correlation between design choices and bridge deck deterioration, including the statistical analysis, can be found in Chapter 4.

Conclusions on the influence that design choices have on the corrosion related deterioration of concrete bridge decks are drawn based on all sections of the project. Recommendations on choices that designers can make to extend the life of bridge decks are presented. Recommendations for further research are also made. Conclusions and recommendations can be found in Chapter 5.

CHAPTER 2
LITERATURE REVIEW

In order to establish the scope of this project, a review of literature was undertaken. Several projects have examined the correlation between design factors and concrete bridge deck deterioration. None has been successful in developing a quantitative relationship or a true understanding of the many mechanisms associated with concrete bridge deck deterioration.

There have been several American studies attempting to relate bridge design to deck deterioration, but no published record of any similar Canadian study was found. Broad overview studies are presented to establish the general nature of the problems. These are followed by a review of previous results on a factor-by-factor basis. Not all of the design factors discussed in this chapter will be studied further in this project, nor have all of the factors that will be studied been included in the literature review. Several design factors have been studied extensively, and their effects on deterioration are well understood. Others have not been considered with respect to deterioration, and no published studies could be found. The literature review presented here is not exhaustive. It has, however, been based on a sample of published research literature broad enough to satisfactorily achieve the goals of this project.

2.1 Broad Overview Studies

2.1.1 Dunker and Rabbat

Kenneth F. Dunker and Basile G. Rabbat have published several papers together describing their investigations of bridge deterioration. By comparing visual inspection ratings for highway bridges included in the U.S. Federal Highway Administration's (FHWA) National Bridge Inventory (NBI), the two researchers were able to make several conclusions regarding construction trends and performance patterns of various bridge populations.

The structural performance of highway bridges in the NBI is based on rating five major items on a scale of 0 (closed) to 9 (excellent). A bridge is described as structurally deficient when the condition rating of the deck, superstructure, or substructure is 4 or less, or the structural condition or the waterway adequacy receives an appraisal rating of 2 or less. Dunker and Rabbat limited their investigation to those structures categorized as highway bridges built since 1950, the year prestressed concrete was introduced to U.S. highway bridge construction (Dunker and Rabbat, 1990b). The total sample size for their study was 303 400 bridges.

The first trend noticed by Dunker and Rabbat was the significant change in the materials used to build bridges during the period between 1950 and 1987. The biggest change was the

proliferation of the use of prestressed concrete. Prestressed concrete currently accounts for approximately half of all new bridges constructed in the U.S., up significantly from the negligible number of prestressed structures built in the 1950's (Dunker and Rabbat, 1990b). During the same period, the use of structural steel and timber has decreased steadily. The use of reinforced concrete remains relatively constant.

Nationally, the percentage of structurally deficient bridges was found to be 23.5%. When grouped by material type, the percentage of structurally deficient bridges almost doubles with each change from concrete to steel to timber. Table 2.1 shows the percentage of each category of bridge found structurally deficient by Dunker and Rabbat.

By investigating differences in deficiency patterns between states, Dunker and Rabbat were able to show how maintenance policies affect the deterioration of bridges. Figure 2.1 shows deterioration rates for each of the lower 48 states. It is interesting to note the differences in deterioration rates for adjacent states. The patchwork appearance of the maps in Figure 2.1 indicates that state policy regarding management and maintenance is overriding the effects of climate and traffic (Dunker and Rabbat, 1990b).

2.1.2 Ramey and Wright

George E. Ramey and Randall L. Wright reviewed literature, studied historical bridge records, visited bridge sites, and surveyed bridge maintenance engineers, all within the Alabama Department of Transportation (ALDOT). Their goal was to determine which bridge design traits lend themselves to deterioration. Like Dunker and Rabbat, Ramey and Wright found that the most structurally deficient major component of the bridge was the deck (Ramey and Wright, 1997c). It was found that deck deterioration and durability in Alabama are closely related to deck cracking, emphasizing the importance of minimizing cracking in the deck (Ramey et. al., 1997b). Major causes of deck cracking were found to be tensile stresses in negative moment regions, increased flexibility of structural steel spans, and fatigue in older decks (Ramey et. al., 1997b). The most dramatic improvements in deck performance, in both the transverse and longitudinal directions, were caused by increasing the deck thickness and by specifying 2.5 in. of cover (Ramey et. al., 1997b).

Ramey and Wright reviewed literature from several state transportation authorities (Ramey and Wright, 1997a). In all cases, the deck was found to be the major component with the highest rates of deterioration. Although the variables studied by the various bridge authorities were predominantly the same, the differences in their level of influence highlighted the effect that maintenance and management policies have on bridge deterioration. Several studies found that statistical analyses were ineffective or inappropriate when applied to deterioration studies.

Table 2.1. Structural Deficiencies by Superstructure Type (Duker and Rabbat, 1990b)

Superstructure Type	Percentage Found to be Structurally Deficient
Prestressed Concrete	<5%
Reinforced Concrete	7%
Structural Steel	20%
Timber	45%

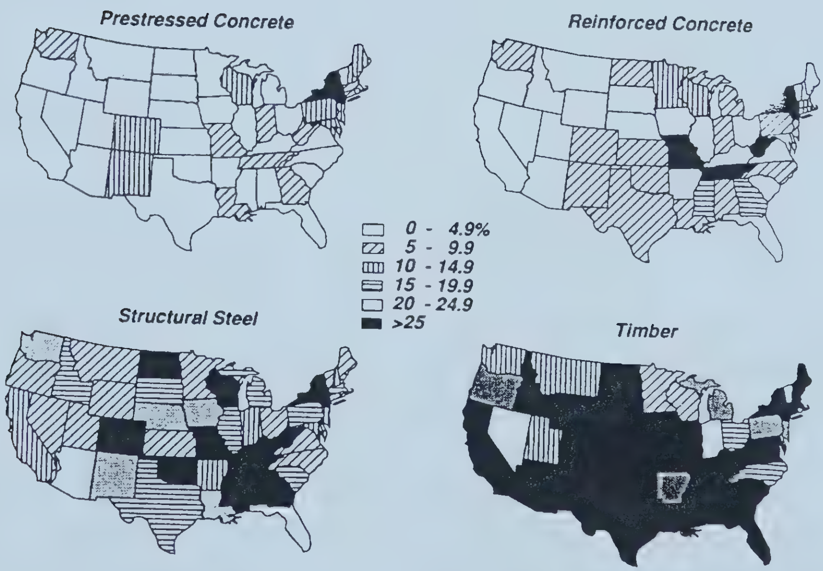

Figure 2.1. Average Percent Structural Deficiency by State for Four Bridge Types Built Between 1950 and 1988 (Dunker and Rabbat, 1990b)

2.2 Reported Effects of Design Parameters

2.2.1 Steel v. Concrete Superstructure

Economic trends, personal biases, and capitalistic tendencies have prompted countless studies into the relative benefits of steel and concrete as building materials for bridge superstructures. More recently, the increased popularity of whole-life cycle cost analysis has prompted researchers to examine the effects of choosing one building material over the other.

Overall trends obtained from the American FHWA bridge inspection database show that concrete decks fare better on concrete superstructures than on steel superstructures. Bridges with a steel superstructure have a higher percentage of deck deficiencies than bridges with a prestressed or reinforced concrete superstructure. Almost twice as many steel bridges are rated structurally deficient as compared to concrete bridges in the United States (Dunker and Rabbat, 1990a; Dunker and Rabbat, 1990b). Independent studies carried out by the NCHRP (McDonald et. al., 1995a), the State of Idaho (Pline and Miller, 1982), and the State of Virginia (Ramey and Wright, 1997a) support these findings, as do the results of a statewide survey of Alabama bridge maintenance engineers (Ramey and Wright, 1997b). In Idaho, it was found that the average life expectancy of a concrete deck supported by steel girders is 4/5 of one supported by concrete girders (Pline and Miller, 1982). A 1997 study of Alabama Department of Transportation visual bridge inspection records found that steel bridges performed slightly better than concrete bridges (Ramey and Wright, 1997c).

Studies carried out by Dunker and Rabbat on the FHWA database convincingly demonstrated that the percentage of steel bridges that are structurally deficient is considerably larger than the percentage of concrete bridges that are structurally deficient. These differences were explained not by the differences in the materials themselves, but in the construction practices and expertise used to build each of the two types of bridges. The deficiency percentages for steel bridges are said to represent a tendency of local authorities, which fund the majority of bridges built in the United States, to use reclaimed or readily available steel and their own crews versus specialty concrete contractors and high quality concrete materials (Dunker and Rabbat, 1995). In the United States, bridges funded by local authorities are not required to meet strict federal standards, and many steel structures are thus constructed in a structurally deficient state, or are classified as structurally deficient within 10 years of their construction (Dunker and Rabbat, 1990a). On the other hand, virtually no reinforced or prestressed concrete structures, which are generally constructed by third party specialty contractors, are built in a structurally deficient state (Dunker and Rabbat, 1995).

Although Dunker and Rabbat concluded that the differences in bridge deck performance between steel and concrete bridges were due mainly to the tendency of transportation authorities to

construct higher quality structures out of concrete, other researchers have concluded that the cause of these differences lies in the behavior of the materials themselves. McDonald (et. al., 1995a) noted the significantly increased occurrence of transverse cracking in bridges constructed with wide flanged steel beams and steel plate girders. This difference is likely due to the increased flexibility and the continuity of these systems. Sotiropoulous and GangaRao (1993) indicate that the variations in performance are due to differences in the coefficients of thermal expansion between steel and concrete. Although temperature differentials between the top and bottom surfaces of concrete structures are often more severe (due to concrete's poor heat conductivity), the variation in thermal coefficients between concrete and steel lead to the buildup of thermal stresses within the deck and strain incompatibility at the concrete/steel interface. These in turn lead to cracking and deck growth (Sotiropoulous and GangaRao, 1993). A statewide survey of bridge maintenance engineers in Alabama (Ramey and Wright, 1997b) noted that fatigue failures at steel diaphragm to girder connections are a major problem with steel bridges. Failure of intermediate diaphragms could lead to increased differential settlements across the width of a bridge, causing longitudinal cracking and associated problems.

2.2.2 Continuous (Jointless) v. Simple Spans

Jointless bridge construction has gained favor in recent years, and is currently the preferred option for short to medium length spans with a skew angle less than 30 degrees (VanLund and Brecto, 1999). Since joints are generally the first element on a bridge to fail, maintenance personnel prefer the reduced maintenance requirements of continuous span bridges (VanLund and Brecto, 1999).

Organized studies appear to validate the preferences of maintenance personnel as well. Dunker and Rabbat (1990a) noted that the difference in deficiency percentages between simple span and continuous span structures confirms the improved performance of jointless bridges. Additional studies in Washington State and New York State indicate that continuous structures outperform simple spans (VanLund and Brecto, 1999; Ramey and Wright, 1997a). Studies of historical data in the State of Alabama, however, show that simple spans perform better there than continuous spans (Ramey and Wright, 1997c). This trend may be due to the minimal use of snowplows and deicers in Alabama, or could possibly be due to an increased knowledge on the part of Alabama State transportation officials regarding the construction and maintenance of simple span bridges. Trends suggest that there is a long-term performance advantage in specializing in one bridge type rather than having a diverse bridge population (Dunker and Rabbat, 1990a).

Aside from increased maintenance involved with repairing and replacing bridge joints, there are many other problems associated with simple span construction. Leaky joints allow water and other corrosive materials access to girder ends and piers (Ramey and Wright, 1997c), causing

deterioration that may lead to severe structural problems. Deck joints also have a tendency to become clogged with debris, restricting deck expansion and causing large compressive forces to build up in girder ends, abutments, and approach slabs. For bridges on a skew, these compressive forces can lead to horizontal misalignment and other associated damage (Ramey and Wright, 1997b).

The elimination of deck joints, along with their associated problems, introduces a whole new set of concerns. Because separate spans are not allowed to expand and contract individually, additional thermal stresses need to be accounted for in their design (Sotiropoulous and GangaRao, 1993). High thermal stresses increase the continuous bridge's susceptibility to transverse cracking and, in the case of integral bridges, abutment rotations (VanLund and Brecto, 1999; Ramey et. al., 1997b). Most temperature related problems are observed in continuous spans (Sotiropoulous and GangaRao, 1993). Specifying the use of approach slabs and limiting the overall length of continuous bridges can minimize these problems. The State of Washington, for example, limits the lengths of continuous bridges to 91.4 m for steel spans and 106.7 m for concrete spans (VanLund and Brecto, 1999). The different limitations for steel and concrete are due to the increased stresses in decks on steel spans created by strain incompatibility at the steel/concrete interface.

2.2.3 Effects of Skew

It has long been known by maintenance engineers that skew bridges deteriorate faster and require more maintenance than right angle crossings. In design, the effects of skew are generally ignored for skew angles less than 20 degrees (Bakht and Agarwal, 1993), and do not typically affect the performance of a bridge until the skew angle exceeds 30 degrees (McDonald et. al., 1995a; VanLund and Brecto, 1999). The Ontario Highway Bridge Design Code specifies that the effects of skew can be ignored for skew angles less than 20 degrees. Decks with higher skew angles appear to fare the worst, suffering from a host of problems ranging from reduced punching load strengths (Ebeido and Kennedy, 1996) to an increased susceptibility to transverse cracking (McDonald et. al., 1995a).

The most severe problems related to increased skew angles are horizontal misalignment and deck growth. Stresses caused by clogged or seized expansion joints cause individual spans to rotate, creating horizontal misalignments at bridge joints (Ramey and Wright, 1997b). The stresses in the misaligned joints can cause damage to the adjoining deck and girder ends or abutments. The misaligned deck will also be damaged by impact from traffic and snowplows, deteriorating faster than it would were it straight. Continuous structures, especially integral bridges, are particularly prone to deck growth, which causes transverse cracking. As demonstrated in Figure 2.2, when the jointless skewed deck expands it too will tend to rotate

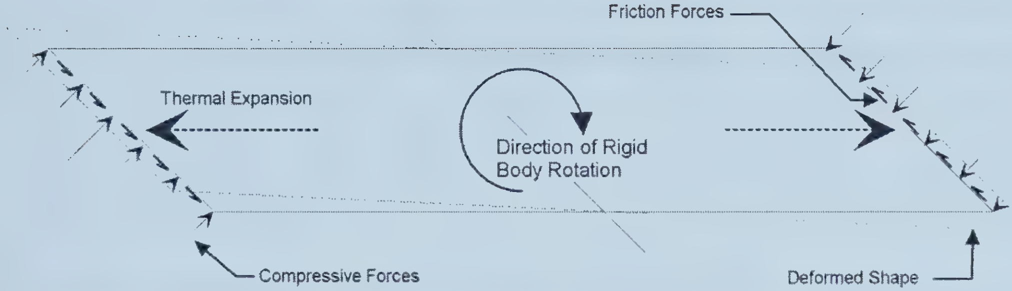

Figure 2.2. Rotational Behavior of Skewed Semi-Integral Bridges (Van Lund and Brecto, 1999)

towards the acute angle because the resultant soil pressures acting on the abutments are not collinear. As the bridge cools and contracts, frictional resistance from the soil wedges adjacent to the abutments prevents the deck from returning to its original position. Incremental expansion will continue to occur over time, leading to transverse cracking and misalignment (VanLund and Brecto, 1999). Rotation towards the acute corners of the bridge, causing the increased soil pressures in these areas, makes skewed structures significantly more susceptible to transverse cracking near the corners (McDonald et. al., 1995a).

2.2.4 Coated v. Uncoated Reinforcing Steel

One of the main causes of bridge deck deterioration is the corrosion of the top mat of reinforcing steel (Babei and Hawkins, 1988). Corrosion is usually initiated when the level of chloride ions in the concrete at the location of the steel mat become elevated enough to overcome the passivating characteristics of the surrounding concrete. In uncracked, high quality concrete, adequate cover is generally acceptable to ensure that chloride ions, generally applied as road salts, take a sufficiently long time to build up at the level of the steel. When the concrete cracks, the corrosive solutions have a direct and instantaneous path to the steel. The only way to protect against corrosion in the vicinity of cracks is to coat the reinforcing bars with a protective, non-corroding barrier (Gene, 1995).

There are currently several varieties of corrosion resistant barriers in use including epoxy and alkyd coatings, hot-dip zinc galvanizing, and stainless steel claddings. All types of barrier systems have received only limited use internationally, although epoxy coating is by far the most common form of coated reinforcing bar protection in use today (Yoemans, 1994).

2.2.4.1 Epoxy Coated Reinforcement (E.C.R.)

Epoxy coatings act as a physical barrier, preventing moisture and chlorides from reaching the surface of the reinforcing bars and reacting with the steel. It also acts as an electrical insulator, minimizing the flow of corrosive current within the concrete (Smith and Virmani, 1996). Although epoxy coating has generally performed quite well, its long-term durability remains a concern (Yoemans, 1994; Maldonado et. al., 1992; Rasheeduzzafar et. al., 1992; Babei and Hawkins, 1988). The presence of holidays and the susceptibility of the coating to damage during handling and transportation limit the effectiveness of epoxy coatings. Reports of severe corrosion of epoxy-coated bars in several bridges in the Florida Keys have raised questions concerning the effectiveness of E.C.R. in aggressive environments (Smith and Virmani, 1996; Yoemans, 1994; Maldonado et. al., 1992; Babei and Hawkins, 1988). Results of tests by Callaghan (1993) and Rasheeduzzafar (et. al., 1992) support these concerns, showing that E.C.R. showed no signs of corrosion in mild to moderate chloride exposures (0.6 and 1.2 percent by weight of cement), but showed significant corrosion and cracking of surrounding concrete in specimens exposed to high

chloride levels (4.8 percent by weight of cement). Once initiated, corrosion has been shown to progress along the bar, beneath the coating, causing a systematic breakdown of the epoxy and the surrounding concrete (Yoemans, 1994; Callaghan, 1993; Rasheeduzzafar et. al., 1992). These findings indicate that epoxy barriers may have a finite tolerance limit for chlorides (Rasheeduzzafar et. al., 1992).

The smoother surface of the epoxy, when compared to black (uncoated) steel, causes a reduction in the bond strength between the epoxy coated bars and the surrounding concrete (Babei and Hawkins, 1988). Bond strength reductions as high as 27%, when compared to black steel, have been reported (Maldonado et. al., 1992), although no mention of increased rates of delamination or impaired performance due to the this reduction could be found. Tests show a linear relationship between the thickness of the epoxy coating and the reduction in bond strength (Maldonado et. al., 1992).

The strength of the bond between the steel and the epoxy coating has also been questioned. Although an Ontario study found that adhesion of epoxy to steel decreases with time (Smith and Virmani, 1996), Smith and Virmani (1996) found only minimal evidence of disbondment, or a physical separation of the epoxy and steel, in their own field tests. These results indicate that disbondment is more likely to be caused by corrosion propagating along the surface of the bar beneath the coating, than by poor adhesion.

2.2.4.2 Alkyd Paint Coatings

Alkyd coatings are generally used as a low cost replacement for epoxy or galvanized coatings. Major applications of alkyd-coated reinforcing steel are common in Mexico, but have not been reported in Canada or the United States. No reports on its performance in Mexico could be found. Relative bond losses for alkyd-coated bars are also a linear function of the coating thickness, with average losses in the range of 34 % (Maldonado et. al., 1992).

2.2.4.3 Galvanized Reinforcing Bars

Hot-dip galvanizing produces a strong, metallurgically alloyed coating which is resistant to mechanical damage and can provide sacrificial protection to steel bars (Yoemans, 1994). During the galvanizing process, zinc diffuses into the steel substrate creating not only a pure metallic zinc coating, but also an intermediate Zn-Fe alloy layer. The alloy layer provides continued sacrificial protection to the steel, even in the event that the metallic zinc outer coating is lost. The high reactivity of zinc, when compared to iron, will ensure that it undergoes selective dissolution well in advance of any corrosion of the steel bars (Subramanian, 1996).

Reports on the performance of galvanized steel are conflicting (Subramanian, 1996; Rasheeduzzafar et. al., 1992). A 1975 study (Stark and Perenchio) on the effectiveness of galvanized reinforcing showed that in instances where bridge decks reinforced with untreated steel showed evidence of corrosion and associated concrete distress, decks reinforced with galvanized steel and subjected to similar environments showed no evidence of corrosion at all. Destructive tests carried out as part of the same research project showed that the zinc coating had reacted only superficially in most cases, and that even in the worst cases an estimated 60 – 75 % of the coating remained after 20 years of service.

More recent tests by Rasheeduzzafar (et. al., 1992) have shown that concrete specimens reinforced with galvanized steel bars demonstrated a delay in the onset of cracking, a reduction in the mass of steel lost to corrosion, and an improvement in the rate and severity of spalling and delamintations. Although galvanized reinforcement is capable of withstanding a chloride concentration 2.5 times higher than that that initiates corrosion in black steel, it is generally agreed that galvanizing will not prevent corrosion, but merely delay it (Subramanian, 1996; Yoemans, 1994; Rasheeduzzafar, 1992). The FHWA estimates that the delay in the onset of corrosion is approximately five years (Subramanian, 1996).

2.2.4.4 *Stainless Steel Reinforcement*

Solid stainless steel and stainless clad bars have been used in Europe for many years (Flint and Cox, 1988). Although the cost of solid stainless steel reinforcing bars and stainless clad steel reinforcing bars generally inhibits its wide spread use in North American bridge construction, research into the performance of concrete reinforced with stainless steel reinforcement has been promising. Stainless steel has a corrosion threshold seven to ten times higher than black steel (Sornesen et. al., 1990; Zoob et. al., 1985). In comparative tests with other types of coated reinforcement, stainless steel consistently outperformed them all, showing little or no sign of corrosion or concrete distress at any level of chloride exposure (Callaghan, 1993; Rasheeduzzafar, 1992; Treadaway et. al., 1989; Flint and Cox, 1988). Austenitic stainless steels were shown to perform the best in extreme exposure conditions (Treadaway et. al., 1989). Callaghan (1993) noted that stainless steel reinforcing is susceptible to corrosion when not all hot-roll scale is removed prior to being used.

2.2.5 Effects of Cover Depth

The durability of reinforced concrete exposed to an aggressive environment is largely dependent on its ability to prevent moisture and harmful chemicals from reaching the steel (Ozyilderim, 1998). The highly alkaline environment within concrete passivates steel and prevents it from corroding (Yoemans, 1994). When this ideal environment is disrupted by the presence of chloride ions, the passivating effects of the concrete are lost and the steel corrodes (Gene, 1995).

The most effective and efficient means of preventing corrosion of steel within concrete is to provide an adequate cover of dense, impermeable concrete (Subramanian, 1996; Yoemans, 1994). The question of what constitutes adequate cover of course arises, as well as inquiries in to when extra cover becomes excessive cover.

Studies have shown that cracking decreases drastically with increased cover, especially in the 25 to 50 mm range (Ramey et. al., 1997b; Leslie, 1980). Field studies in New York State show that decks with a 50 mm design cover performed far better than decks with a 38 mm design cover. In addition, the same studies also indicated that an increase in cover caused a reduction in the rate at which decks deteriorated, and the extent to which they deteriorated (Leslie, 1980). Most reports seem to agree that optimal cover depth lies in the range of 38 – 75 mm (Ramey et. al., 1997b; McDonald et. al., 1995a; Leslie, 1980). Decks with less than 38 mm of cover have been shown to be more susceptible to settlement cracking (McDonald et. al., 1995a).

The ACI Building Code recommends that 50 mm or more cover be used in extreme exposure conditions (i.e. bridge decks exposed to deicing salts). CSA A23.3 specifies a minimum 60 mm cover in aggressive environments, while the Ontario Highway Bridge Design Code recommends using at least 70 mm. The previous version of the Canadian Bridge Design Code (CSA S6-88) specifies the use of at least 50 mm of concrete cover for members exposed to deicing salts. The new version of the bridge code (CSA S6-00) specifies that 70 ± 20 mm of cover be used in aggressive environments. The CPCI Design Manual recommends that 50 mm or more cover be used for prestressed members exposed to corrosive environments (Rogowsky, 1996). The goal of minimum cover requirements is to increase the time it takes for chlorides to migrate to the level of the steel. However, increasing the cover depth hampers the steel's effectiveness in reducing surface cracking (Babei and Hawkins, 1988). In order to minimize the deck's susceptibility to transverse cracking, cover should be limited to a maximum of 75 mm (Osterle, 1997; Ramey et. al., 1997b; McDonald et. al., 1995a).

Although the over-design of the deck can significantly improve the performance of a bridge (Dunker and Rabbat, 1990b), it is far from the only factor playing a major role in deck deterioration. Even though studies have shown that bridges generally deteriorate in areas of low cover, attempts to correlate the occurrences of areas of low cover to the deterioration of a population of bridges have been unsuccessful (Leslie and Chamberlin, 1980). This is likely due to the fact that the effect of cover depth is not constant. It greatly influences the time to the onset of deterioration in the first four to five years of a bridge's life, but the influence diminishes rapidly as the bridge ages and other factors become more influential (Chamberlin, 1985).

2.2.6 High-Performance Concrete

ACI defines high-performance concrete as "concrete meeting special combinations of performance and uniformity requirements that cannot always be achieved routinely using conventional constituents and normal mixing, placing, and curing practices" (Russell, 1999). High-performance concrete mixes are generally made of the same materials as conventional concrete, but have been specially proportioned to provide improved durability and strength, while maintaining constructability (Moore, 1999; Russell, 1999).

In the case of bridge decks, low permeability concrete performs better than conventional mixes (Ozyildirim, 1998) as they reduce the rate at which chloride solutions penetrate the concrete. Chloride ion penetration can be reduced by the use of latex, pozzolan (Class F fly ash or silica fume), or slag (Ozyildirim, 1998).

There are currently no cast-in-place bridge decks in Alberta constructed of high performance concrete. HPC is used for low permeability bridge deck overlays, generally as a rehabilitation measure. Sponsored by the Strategic Highway Research Program (SHRP), monitored field applications of the use of HPC in selected bridge decks in the United States were begun in 1995 – 1997 (Ozyildirim, 1999). As these decks age, long-term performance data should become available and provide information on high performance concrete bridge decks.

2.3 Summary

Several studies (see section 2.2.1) have shown that bridge decks supported on concrete superstructures outperform those supported on steel superstructures. Dunker and Rabbat (1995) believe that these differences are due to construction practices and that the materials themselves have little effect on bridge deck performance. Other researchers disagree with this explanation. They claim that the performance differential is due to damage arising from strain incompatibilities at the steel-concrete interface. Although the effects, in relation to bridge deck durability, of choosing between a steel and concrete superstructure are generally agreed upon, the specific cause of these effects is not.

In terms of the amount of maintenance resources expended, continuous bridges outperform simply supported bridges. However, continuity in the bridge deck introduces factors that may contribute to bridge deck deterioration. Most thermal problems are observed in continuous bridge decks due to the increased lengths of restrained deck. Continuity also causes tension over supports in the top of the deck due to vertical loads, a condition that simply supported structures don't experience. Although visual inspections indicate that continuous bridges outperform simple spans, the effects of continuity on the deck itself are still unknown.

Skewed bridges are subject to axial and torsional stresses which increase their susceptibility to transverse cracking. These stresses are caused by clogged joints, soil pressure, and end friction. Vehicle loads on misaligned spans also add to the unique host of stresses experienced by skewed crossings. The increase in transverse cracking amongst skewed bridges accelerates the deterioration of their decks. The degree to which skew influences deck deterioration has not been determined.

Coated reinforcing bars were initially believed to be the solution to many of the corrosion-related problems that bridge decks face. Unfortunately, the corrosion of epoxy-coated bars in extreme environments limits their use. It is generally agreed that epoxy-coated bars will outperform black steel bars under low to moderate exposure conditions. E.C.R.'s performance under extreme exposure conditions, such as heavily salted bridge decks, is still questionable. Galvanized reinforcing bars are expected to delay the onset of corrosion by about five years, while stainless steel reinforcing bars, whose cost limits their wide spread use, were found to prevent corrosion even under extreme exposure conditions. The use of coated reinforcing steel has been heavily researched in many studies, the results of which can be readily found in the literature.

It is generally agreed that the optimal range for cover depth is 35 to 75 mm. Cover depths below 35 mm provide insufficient protection for the reinforcing steel against the aggressive bridge deck environment. Cover depths in excess of 75 mm impair the ability of the top mat of reinforcing bars to prevent surface cracking. Cover depth has the greatest influence on the deterioration of young bridge decks, with its level of influence trailing off after five to ten years. Whether or not cover depth within this optimal range has any influence on deck deterioration is not reported.

It is believed that the use of high performance concrete in bridge decks will greatly improve their durability. Based on theory and laboratory tests, it is believed that mixes designed specifically for durability under extreme exposure conditions can be made. Due to the cutting edge status of these concepts there is insufficient real life data to assess the long-term performance of high performance concrete in the field.

The literature shows that the amount of research into bridge deterioration has increased recently, especially within the last decade. By studying the performance of individual bridges within a population, researchers have been able to identify several factors that influence bridge durability and deck deterioration. Performance data has, for the most part, been acquired through visual inspection. Large scale, "real world" studies have used visual inspection ratings that are subjective in nature, and which may not be consistently applied from one region to another. Like any data obtained from real world applications, visual inspection data is subject to relatively high variances. Controlled laboratory tests are generally carried out to assess the effects of varying a single parameter. They rarely reproduce the actual conditions under which a bridge must exist,

nor do they capture the interactive effects of the many other parameters not considered in the test. The limitations of the data used in previous studies raises two questions: Are there other objective forms of real world data, free from regional inconsistencies and subjectivity, which could be used to describe bridge deck deterioration? When using objective criteria, what is the influence of various design decisions on bridge deck deterioration?

CHAPTER 3
METHODOLOGY

This chapter will outline the process used to determine which design choices can be made to extend the life of concrete bridge decks. Copper sulphate electrode (CSE) test results are used to objectively quantify corrosion induced bridge deck deterioration. An outline of the CSE testing procedure is found in § 3.2. A relational database was constructed to store and manage the test results, which were provided by Alberta Transportation (AT). A description of the database is provided in § 3.3. Scatter plots are used to establish correlations between design parameters and general populations of bridges. The bridges are then further divided into sub-populations to improve correlations, and focus the research. These scatter plots form the central part of this investigation, which is outlined in § 3.4. Simple statistical analyses are carried out on those sub-populations showing strong correlations. A description of the statistical analyses can be found in § 3.5. A flowchart graphically summarizing how conclusions were arrived at can be found in § 3.6 at the end of this chapter.

3.1 General

There are essentially two approaches to obtaining data that can be used to improve the design and management of bridge inventories (Somerville, 1998):

1. A broad-brush statistical analysis of costs associated with bridge construction and maintenance over time.

2. An analysis of the causes of deterioration based on observed effects.

This project will use a variation on the second approach by trying to determine correlations between bridge design (the causes) and deck deterioration as measured by copper-sulphate electrode test readings (the effect).

Previous research projects carried out by Alberta Transportation and other institutions have demonstrated how CSE readings are associated with bridge deck deterioration. Carter (1989) has shown a strong correlation between the onset of active CSE readings (more negative than -350 mV) and associated deterioration of the bridge deck. Visible damage such as the development of spalls and potholes generally lag the onset of active CSE readings by about ten years, with the onset of structural damage such as delamination and related cracking preceding the onset of visible damage. The approximate lag time between the onset of active CSE readings and associated structural damage is not specifically known, but can be assumed to occur within five years of the onset of corrosion of the top mat of reinforcing steel. These values are generally

only valid for uncracked concrete decks. The rate at which steel corrodes is based on the alkalinity and oxygen content of the surrounding environment, amongst other factors. Cracked concrete allows oxygen and corrosive salt solutions direct access to the steel, creating an ideal environment for corrosion that accelerates the expansion of the steel and reduces the lag time between the onset of corrosion and associated structural and visible damage.

Differences in funding, design, construction, inspection, de-icing amounts, and maintenance policies strongly affect the performance of bridges (Dunker and Rabbat, 1990a). By studying test results from a single transportation authority differences in funding and maintenance policies are eliminated. By using results of a standardized test procedure, subjectivity and regional variations are removed from the data. The use of average test values from populations of bridges, as opposed to test results from individual bridges, deals with the variation in the use of de-icing chemicals by comparing test results corresponding to the average rate of chloride application, which is assumed not to vary between populations. It is impossible to eliminate variations in construction quality when analyzing large amounts of historical data without eliminating a majority of the available data. To eliminate construction quality as a source of variation, assessments of each individual bridge in the study would have to be made, requiring site visits and additional destructive testing. Since it would only be possible to visit a small percentage of the bridge sites within the province and carry out these assessments, a considerable amount of data would be lost in an attempt to eliminate a final remaining source of variation. For this study, it was assumed that variation due to construction quality is constant across the entire population of bridges within the Province of Alberta. This leaves the design of the bridge as the only controllable factor causing variation within the test results. The correlation between various design factors and the durability of concrete bridge decks is studied in this report.

3.2 Copper-Sulphate Electrode (CSE) Testing

To become intimately familiar with copper-sulphate electrode testing, the author spent two weeks working on a bridge testing crew contracted to collect CSE data for Alberta Transportation. Several weeks were also spent working with engineers analyzing CSE data and making maintenance recommendations based on it. The information in this section is based in part on these experiences.

3.2.1 Background

CSE testing is used to estimate the electrical half-cell potential of uncoated reinforcing steel as a means of determining its corrosion activity. The test method is applicable to all exposed reinforced concrete members reinforced with black steel regardless of their age or size, or the depth of concrete cover over the reinforcing steel (ASTM C 876 – 91). Half-cell measurements are dependant on the presence of an electrical circuit, and may be affected by the conductivity of

the concrete. The contact resistance between the probe and surface dry concrete can be so great as to cause an erroneously low potential measurement (Stratfull, 1973), necessitating the application of an electrical contact solution to the concrete surface immediately prior to testing.

The numeric magnitude of the measured potential is used as an indication of the presence or absence of corrosion of steel embedded in the concrete. According to ASTM C 876 – 91 potentials more positive than –200 mV indicate a greater than 90 % probability that no corrosion of the reinforcing steel is occurring in the test area at the time of measurement. Measured potentials in the range of –200 mV to –350 mV indicate that corrosion activity in the test area is uncertain. Potentials more negative than –350 mV indicate that the probability that corrosion is occurring is greater than 90 %. An active potential does not correlate with a specific rate of corrosion, although the numerical value of the potential has been shown to increase with an increasing amount of corrosion (Stratfull,1973).

The half-cell potential does not measure the physical or structural condition of the concrete, and can only be empirically related on a statistical basis to concrete cracking under specific conditions. Concrete cracking due to steel corrosion is related to concrete strength, absorption, moisture content, stresses, and cover thickness, and cannot be solely related to the potential measurement (Stratfull, 1973). This being said, in the vast majority of cases corrosion-caused concrete cracking was not associated with a potential less negative than –310 mV (Stratfull, 1973).

As a means of guiding their proactive maintenance program, Alberta Transportation monitors the percentage of potential readings that are more negative than –300 mV on their bridge decks. When the percentage of readings on a single bridge deck becomes elevated, rehabilitation is carried out. The –300 mV threshold ensures that maintenance or rehabilitation is carried out before the corrosion of the reinforcing steel reaches a point where deck replacement becomes necessary.

3.2.2 Apparatus

The apparatus used to collect CSE data consists of a probe, a cane, a voltmeter, and several metres of wiring. The probe is attached to the end of the cane, allowing the inspector to place it on the bridge deck while standing erect. As shown in Figure 3.1, the probe is connected to a voltmeter and a data recorder, which are electrically connected to the top mat of reinforcing steel.

As shown in Figure 3.2, the probe is a copper – copper sulphate half-cell. The half-cell consists of a rigid tube composed of a dielectric material that is nonreactive with copper or copper-sulphate, a porous wooden or plastic plug that remains wet by capillary action, and a copper rod that is immersed within the tube in a saturated copper-sulphate solution. The potential of the

saturated copper – copper sulphate half-cell as referenced to the hydrogen electrode is –316 mV at 22.2 °C (72 °F). The temperature coefficient of the cell is about 0.5 mV more negative per °F for the temperature range of 0 to 49 °C (32 to 120 °F), and is accounted for when the data is analyzed.

ASTM specifies that the battery powered voltmeter have an end-of-scale accuracy of ±3 %, and an input impedance of no less than 10 MΩ when operated at a full scale of 100 mV. Inspection crews currently use digital voltmeters set to an accuracy of 1 mV. An automated battery powered data recorder is connected to the voltmeter, enabling quick and accurate recording of the readings. ASTM C876 – 91 also states that lead wires are to be dimensioned such that their electrical resistance for the length used will not disturb the electrical circuit by more than 0.1 mV. This is accomplished by using no more than 150 m of at least AWG No. 24 wire. The wire is suitably coated and insulated.

3.2.3 Procedure

The procedure used by Alberta Transportation to collect CSE test data is very similar to that specified in ASTM C 876 – 91. Upon arriving on site and setting up appropriate safety measures, a 1.2 m (4 ft) grid is laid out on the bridge deck. 1.2 m spacing has been found to satisfactorily represent the corrosion condition of a bridge deck. Larger spacing will increase the likelihood that localized corrosion areas will not be detected.

Generally, while the grid is being laid out, a separate member of the crew will set up the electrical connection with the top mat of reinforcing steel. Ideally, the connection should be made directly to an exposed piece of the top mat of reinforcing steel. In most cases, exposing the top mat of reinforcement can only be accomplished by removing some of the deck concrete, a time consuming and counterproductive activity. Fortunately, in cases where it can be documented that an exposed steel element is electrically continuous with the top mat of reinforcing, the electrical connection can be made to the exposed steel element. Electrical continuity of steel components with the reinforcing steel can be determined by measuring the resistance between widely separated, and otherwise electrically isolated, steel components on the deck. Alberta Transportation specifies that a resistance of 0.0 Ω must be measured between widely separated steel elements to be deemed electrically continuous with the top mat of reinforcing steel. Typically, the connection is made to a deck joint plate or a bridge rail anchor bolt.

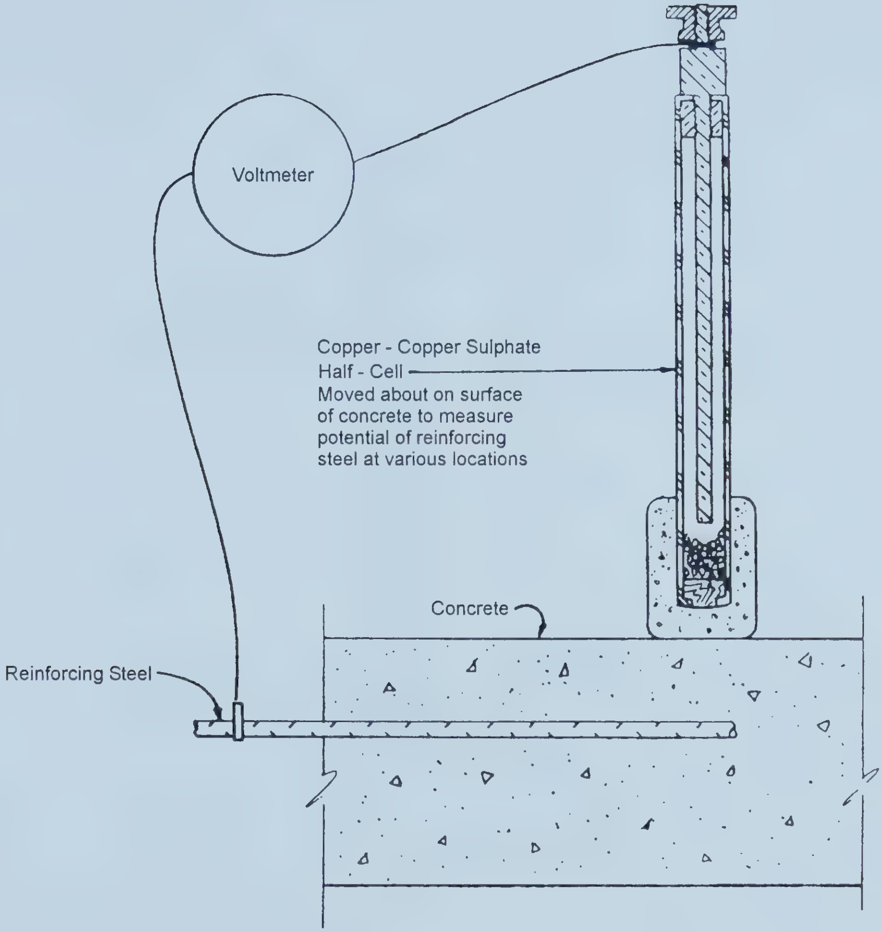

Figure 3.1. CSE Test Setup (ASTM C 876 – 91)

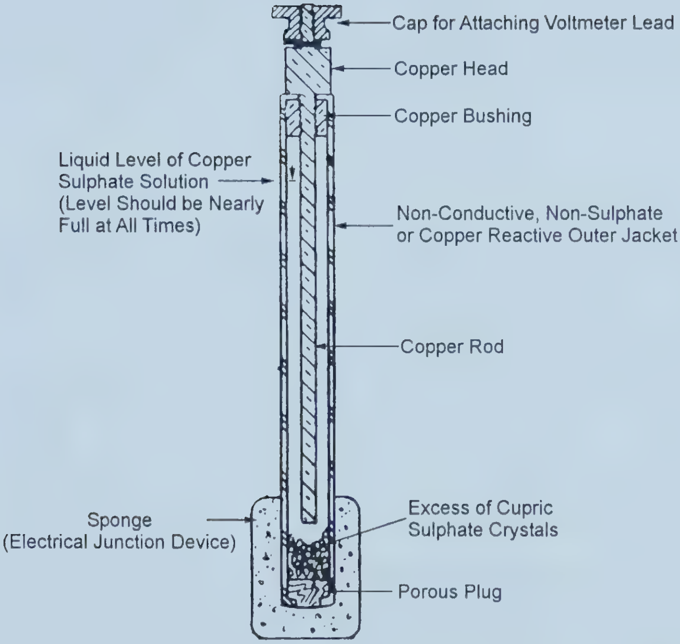

Figure 3.2. CSE Test Probe (ASTM C 876 – 91)

Prior to actually taking any readings, the bridge deck is flooded with an electrical contact solution in order to standardize the potential drop through the concrete portion of the circuit, and minimize any contact resistance between the concrete and the probe. The electrical contact solution is generally made by mixing household detergent and potable water at an approximate ratio of 1:200 by weight. Readings are taken at every grid point and recorded to the nearest mV in the data recorder.

Upon returning from the field, the data is downloaded from the data recorder, corrected for temperature, and then graphically displayed in two different manners, an equipotential contour map and a cumulative frequency plot. Examples of these plots can be found in Figure 3.3 and Figure 3.4. The plots, combined with other statistical information and expert opinion are then used to guide maintenance and rehabilitation activities.

3.3 Database Construction

A robust dynamic database is fundamental to the development of whole-life analysis as a design tool (Somerivlle, 1998). The same holds true when analyzing large amounts of historical data to establish the merits of a given design choice. Without a simple and efficient means of sorting, searching, retrieving and manipulating data, such a project would not be possible. To this end, a simple relational database was set up in Microsoft Access to store inventory information as well as historical test results. Data was received from Alberta Transportation in a single two-dimensional text file. The text file contained all necessary inspection data along with associated inventory data. Each line of the text file represented an individual bridge inspection, causing inventory data to be repeated every time the same bridge was tested more than once. A relational database solves this problem by separating the inventory data from the test data and relating them to one another through a common field. The data file from AT was separated into several tables, each containing unique entries, and each being related to one another through the bridge file number, a field common to each table. Each table contains between 600 and 2200 entries and between 11 and 23 fields.

As the project progressed, it quickly became apparent that the original data set supplied by Alberta Transportation would not be adequate to properly assess all the design parameters. Because current AT databases do not contain information on girder geometry and layout, intermediate diaphragms, and rehabilitation activities, this data had to be obtained elsewhere. To assess the influence of longitudinal girder stiffness, transverse deck stiffness, and intermediate diaphragms, a unique subset of data was created by collecting this information from design drawings. To maximize project efficiency, “value added” data was collected for bridges that had been tested on five or more occasions. Complete sets of data were recorded for

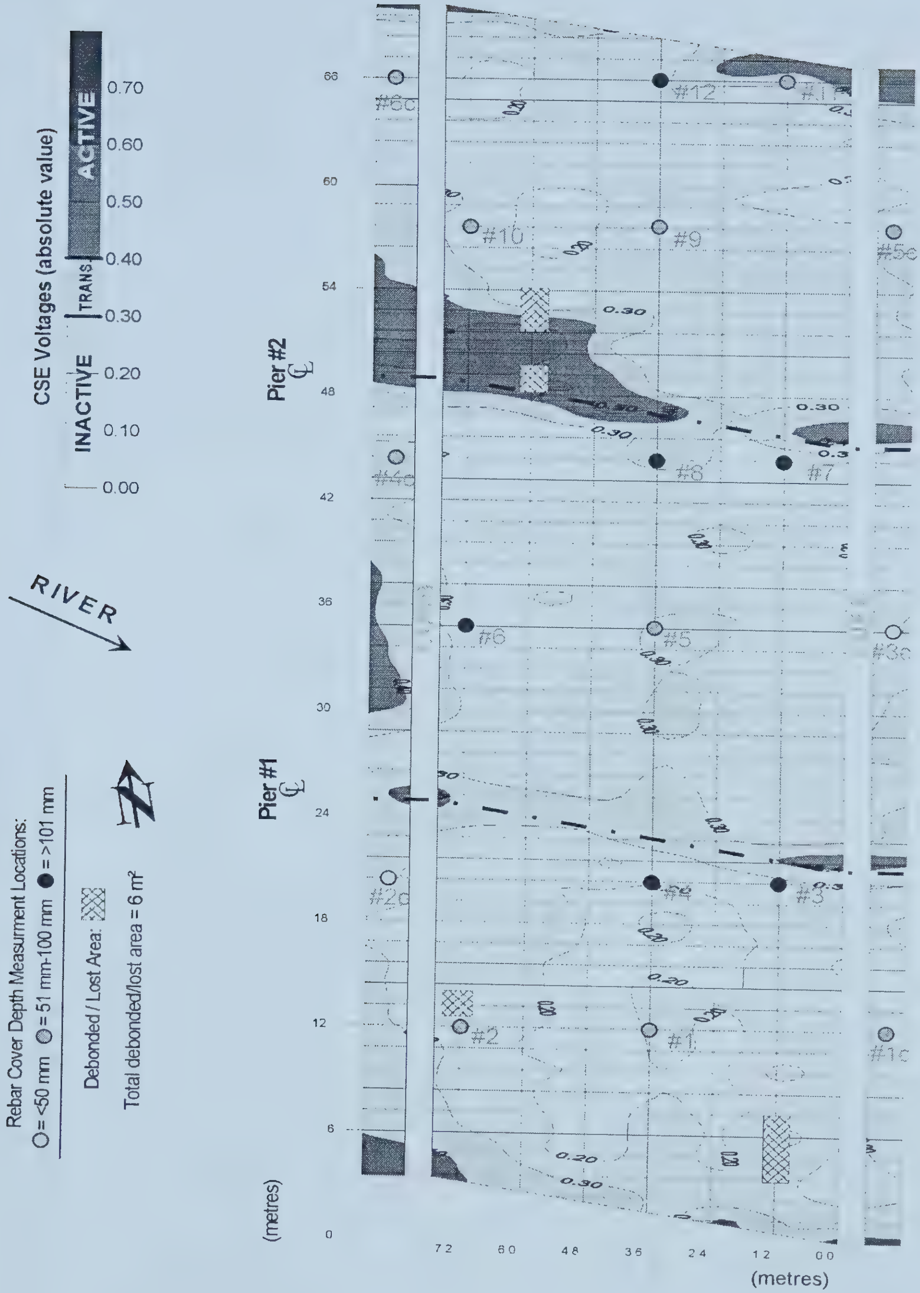

Figure 3.3. Example of CSE Contour Plot (Courtesy of Earth Tech Canada)

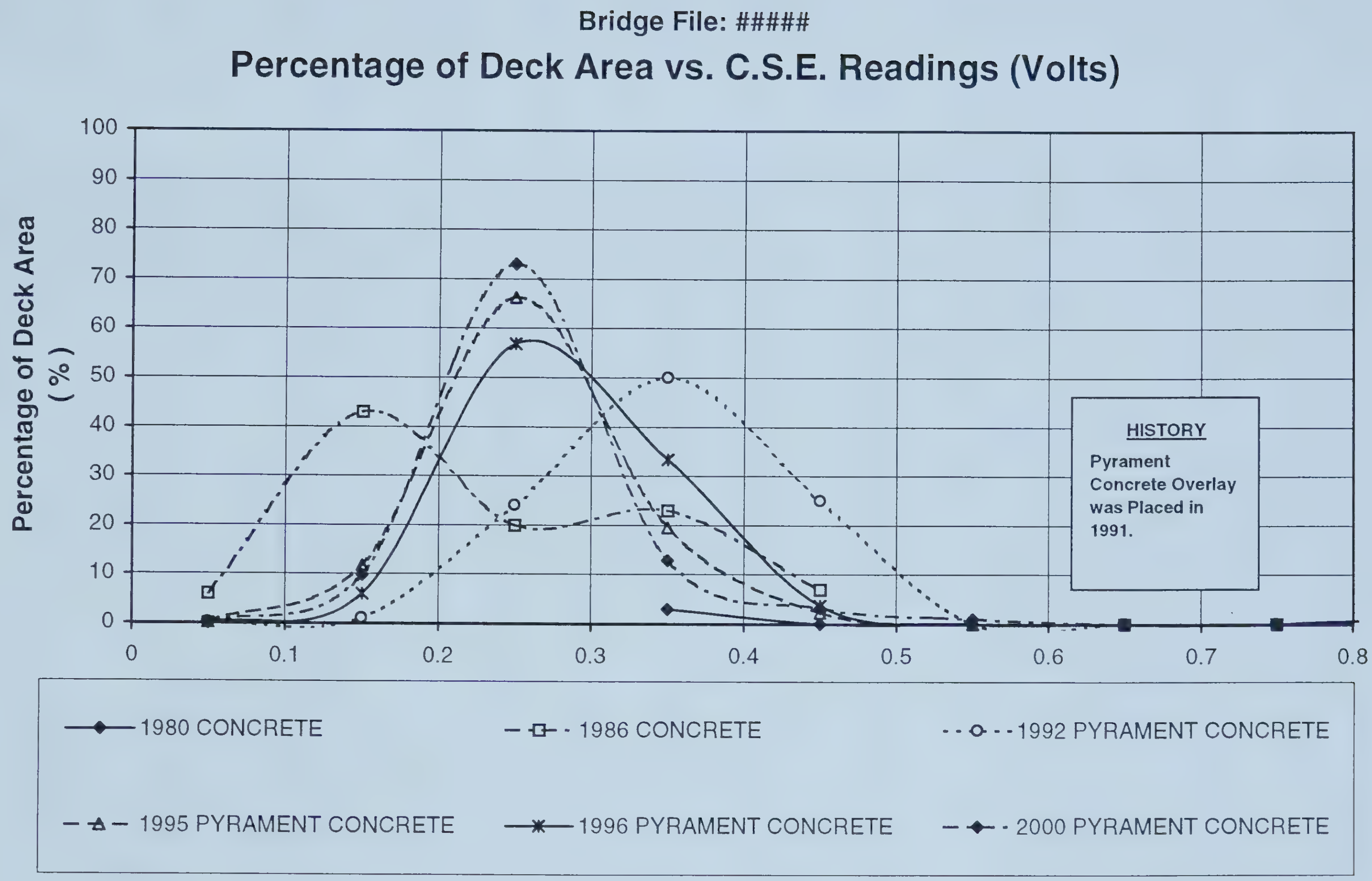

Figure 3.4. Example of Frequency Plot of Historical CSE Data (Courtesy of Earth Tech Canada)

190 bridges, providing results from over 1 000 separate inspections. Section properties and stiffness parameters were calculated from the data on the drawings, and all information was entered into a separate table labeled Value Added Data in the Access Database.

Maintenance and rehabilitation data was obtained from a third party currently contracted to construct such a database for Alberta Transportation. The data included the year the work was done as well as details on the type of maintenance or rehabilitation that was carried out. Two tables were created from this data. The first table contained all of the rehabilitation data, while the second table contained only the year of the first major deck rehabilitation. The second table was used extensively in the research to separate tests that were carried out on rehabilitated decks from those that were carried out on original, non-rehabilitated decks. The fields contained within each of the tables are summarized in Table 3.1.

Table 3.1: Summary of Tables and Fields Contained within the Access Database

TABLE	FIELDS
Bridge Information	File Number, Category, Usage, Span Type, Simple/Continuous, Construction Years, Wearing Surface Type, Subdeck Type, Number of Spans, Span Lengths. Nominal Bridge Length, Skew, Width, Design Load, AADT
Deck Information	File Number, Protection System Type, Deck Thickness, Longitudinal Bar Size, Transverse Bar Size, Longitudinal Bar Spacing, Transverse Bar Spacing, Cover Depth, Bar Strength, Bar Coating
CSE Test Data	File Number, Inspection Date, Wearing Surface at Time of Test, Overlay at Time of Test, Membrane at Time of Test, Number of Readings Taken During Test, Average CSE Reading, Standard Deviation of the Readings, Standard Error of the Readings, Coefficient of Variation of the Readings, Deck Age at Time of Test
Percent More Negative Than –300 mV	File Number, Inspection Date, Percent of Readings < -300 mV, Average CSE Reading
Visual Deck Inspection Data	File Number, Inspection Date, Wearing Surface at Time of Inspection, Overlay at Time of Inspection, Membrane at Time of Inspection, Longitudinal Crack Rating, Transverse Crack Rating, Random Crack Rating, Underside Longitudinal Crack Rating, Underside Transverse Crack Rating, Underside Random Crack Rating, Overall Condition Rating, Inspector's Comments
Value Added Data	File Number, Simple/Continuous, Intermediate Diaphragms Present, Diaphragm Spacing, Girder Spacing, Girder Depth, Deck Thickness, Relative Girder Deflection (Δ/L), Girder Stiffness (EI/L).
Rehab Data	Bridge File, Rehab Year, Description
Year of First Rehab	Bridge File, Rehab Year

Debugging of the database included the elimination of duplicate entries and the identification and elimination of data that was obviously entered in error. Due to the two-dimensional format of the original data file received from AI, there were a large number of duplicate entries in the original version of the database. Duplicate entries were easily located and removed using a built-in query within Access. Errant entries were removed as they were encountered. An initial sweep of the data was done in an attempt to eliminate as many errant entries as possible. Additional mistakes were identified and removed as they were encountered during the research. An entry was deemed to have been made in error if it satisfied one of the following criteria: the value represents a non-existent object, the value falls outside the acceptable range of values, the value is incomplete or unusable, or the value is impossible. These criteria, along with examples, are summarized in Table 3.2.

Table 3.2: Summary of Criteria Used to Identify Errant Entries

Criteria	Example
Non-Existent Object	Non-existent bridge file, Code for non-existent bridge girder
Outside Acceptable Range of Values	Average CSE reading of zero, Percentages greater than 100
Incomplete or Unusable	Incomplete date, Date where month and day are indistinguishable
Impossible Value	A date that has not yet occurred

Once the database was constructed and debugged, it was ready for use. The use of queries and embedded functions to filter and sort data greatly improved the efficiency of the research. Printouts of all the tables contained in the database can be found in Appendix B.

3.4 Primary Investigation

The primary investigation of the data was carried out to determine which design parameters are likely to influence CSE test results, and to become comfortable with the trends that could be expected within the data. In most cases, the bridge population was divided into several subpopulations, based on design characteristics, which were then plotted against the age of the deck. Differences in rates and amounts of deterioration were noted and analyzed in order to determine the relative influence that each design trait has on the durability of the bridge deck. In instances where a quantifiable measurement of the physical characteristics of the bridge exist,

deterioration may have been plotted against the design trait to establish whether variations within a specific design family affect the durability of the bridge deck. By using the average of all tests carried out on a deck of a given age, instead of individual test results, a large amount of data could be included on a single graph in a way that produced distinctive trends with comparably less scatter. By reducing all the individual data points for a given year to a single data point representing the average for that age of deck, the “shotgun blast” appearance of Figure 3.5 is eliminated and trends are more easily observed without any further analysis, as shown in Figure 3.6. Since it was desired that numerical or statistical analysis be kept to a minimum, the use of average values became a very favorable option.

The first step in the investigation was to identify all of the design factors that could possibly influence the CSE readings of a concrete bridge deck. The following list contains the design factors that were studied.

- Steel v. Concrete Superstructure
- Continuous v. Simple Spans
- Cover Depth
- Skew Angle
- Relative Amount and Layout of Steel in the Top Mat of Reinforcing Bars
- Presence of Intermediate Diaphragms
- Stiffness of Girders in Longitudinal Direction
- Stiffness of Deck in Transverse Direction

It should be noted that not all of the above information is contained within AT databases, requiring the retrieval of data for the last three items on the above list from design drawings. Data for these items was collected from drawings for bridges that have had CSE testing carried out on five or more occasions.

Following the selection of the design parameters for study, the data within the database is filtered accordingly and imported into a spreadsheet. The test readings are then grouped by deck age, or other quantifiable variable, and an average value for each group is determined. The average values are then plotted against the deck age, or other variable, and trends are observed and compared.

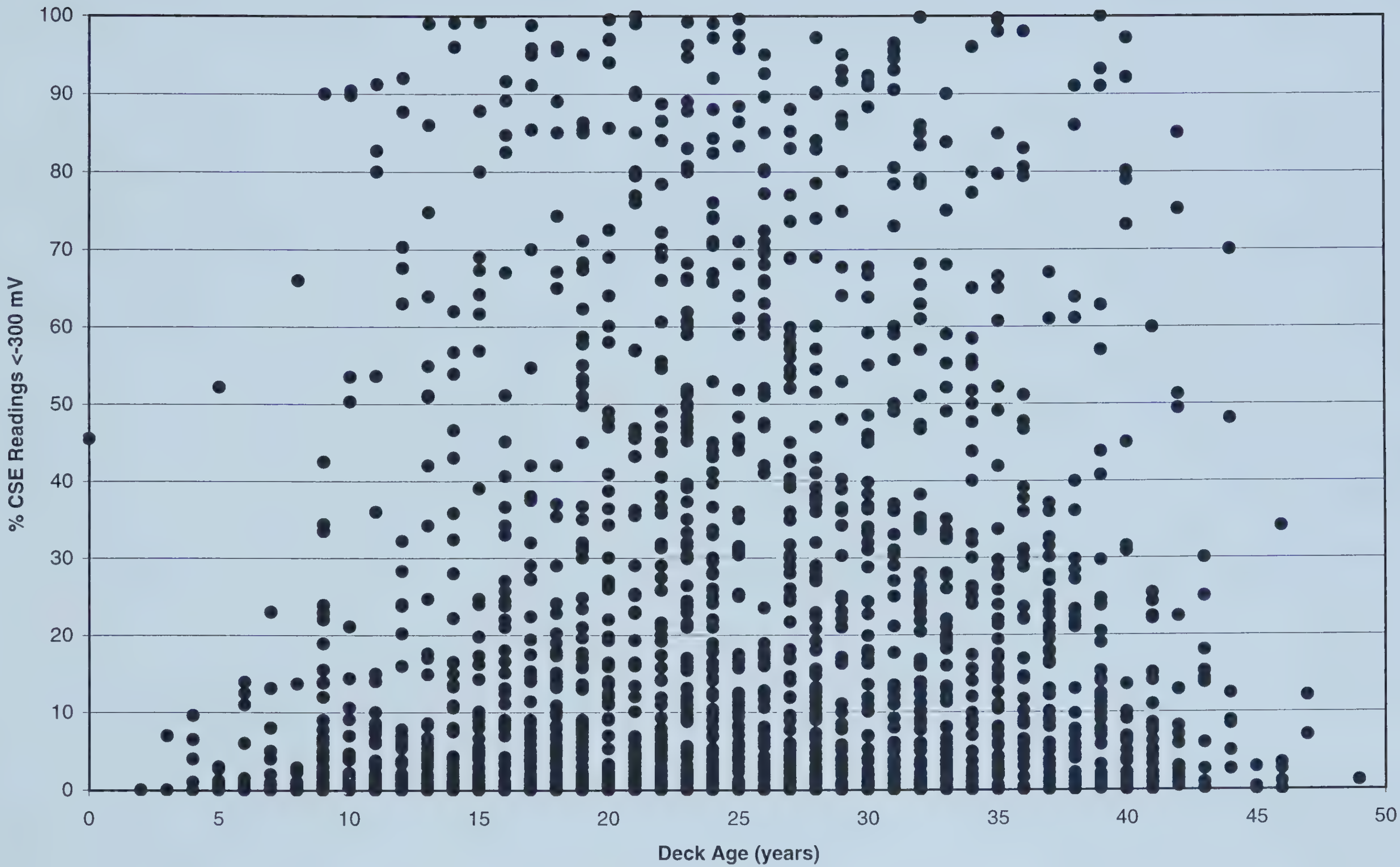

Figure 3.5. Percentage of CSE Readings More Negative Than -300 mV v. Deck Age

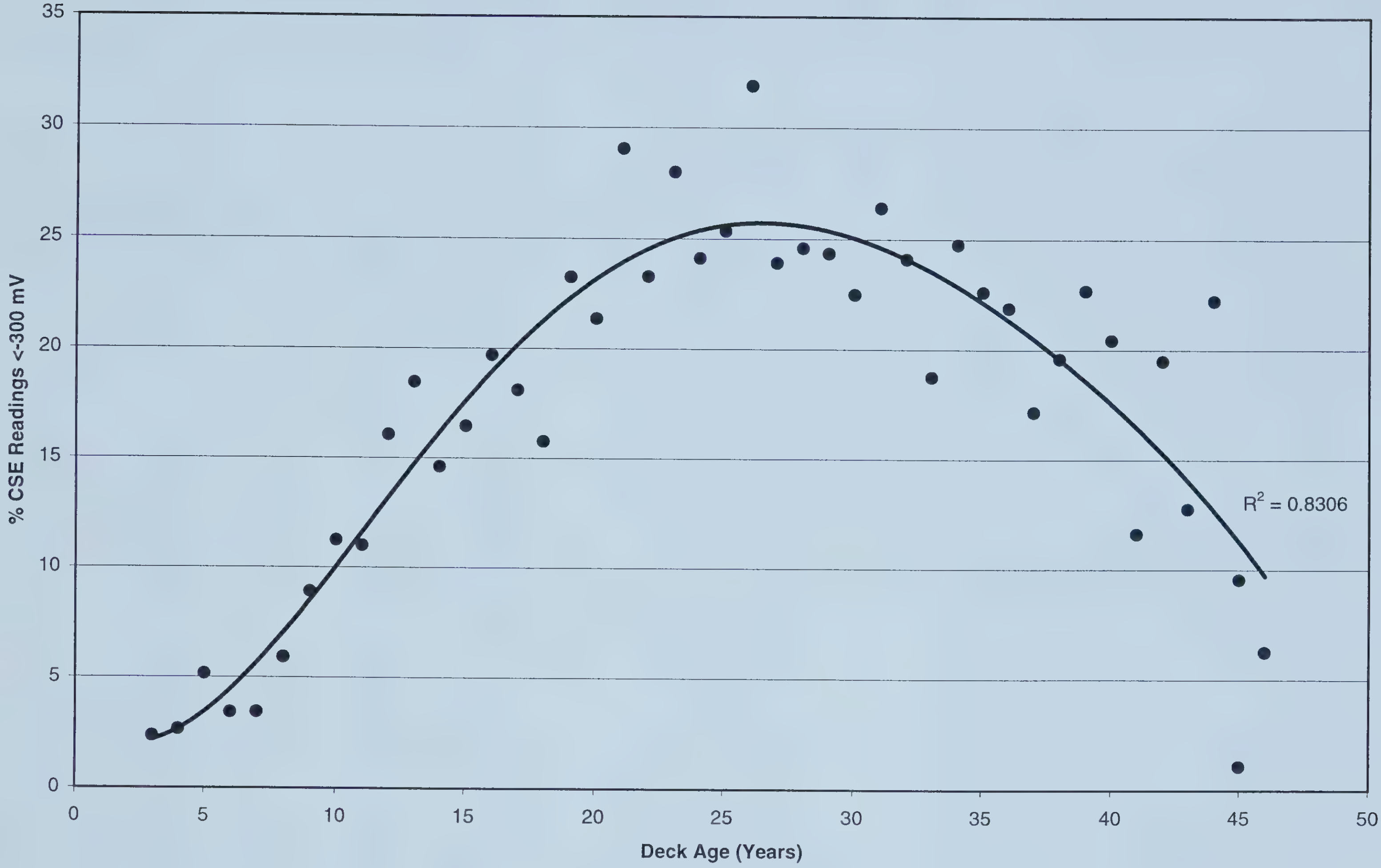

Figure 3.6. Average Percentage of CSE Reading More Negative Than -300 mV v. Deck Age

3.5 Statistical Analysis

CSE data is divided into various populations based on design traits. A simple statistical analysis of selected groups of data is used to assess the strength of relationships between variables, determine the validity of observed trends, and/or check the significance of differences between test results from two different populations. A regression analysis is used to establish a correlation between two variables. A coefficient of determination is calculated to determine the strength of the correlation between two variables. An analysis of variance (ANOVA) is used to assess the confidence level of the regression analysis. Significance testing is used to check whether observed differences between two populations are real, or simply a result of random scatter. A broader explanation of each method of analysis is presented in the following subsections. Further explanation on statistical analysis can be found in Mendenhall and Sincich (1995), Rowntree (1981), and "HP Calculator Manual". The following subsections were derived from these three sources.

3.5.1 Regression Analysis

Regression analyses are used to fit curves to the scatter plots. The least squares method is used to fit first or third order polynomials to the CSE data. A first order polynomial produces a linear regression model, and is generally fitted to data taken from non-rehabilitated bridges. Third order polynomials are non-linear, and are generally found to provide the best fit when rehabilitated bridges were included in the data population. The decision on the type of curve fitted to each scatter plot was left to the discretion of the researcher.

3.5.2 Coefficient of Determination

The coefficient of determination is used as a measure of the contribution of one variable (x) in predicting a second (y). The coefficient of determination computes the reduction in the sum of squares of deviations that can be attributed to x as a proportion of the sum of squares of deviations of the sample mean. The sum of squares of deviations of the sample mean can be expressed as

$$SS_{yy} = \sum (y_i - \bar{y})^2$$

and is a measure of the accumulated error between the individual data points and the sample mean. The sum of squares of deviations for the model created by fitting a least squares line to the data is

$$SSE = \sum (y_i - \hat{y}_i)^2$$

where y_i is the value of the individual point, $\overline{y}$ is the sample mean, and $\hat{y}_i$ is the least squares prediction of y_i. The coefficient of determination can then be calculated as

$$r^2 = \frac{SS_{yy} - SSE}{SS_{yy}}.$$

For simple linear regression, it can be shown that this quantity is the square of the Pearson correlation coefficient (r). Values for the coefficient of determination range from 0 to 1, with higher values indicating a stronger correlation between the two variables.

A strong correlation between two variables does not imply causality. It would be incorrect to conclude, based on a high value of the coefficient of determination, that changes in one variable are caused by variation in another. The only valid conclusion, prior to further examination, is that within the range of the data, given x, one can predict y. A further examination of the relationship between the two variables is needed to determine causality.

The correlation between two variables is not only a measure of the scatter in the data around a fitted model, but also of the slope of the trend line. If the trend line has a very flat slope, the coefficient of determination will be very low regardless of scatter. This is because the values of SS_{yy} and SSE are very close when the trend is very flat.

3.5.3 Analysis of Variance

The built-in regression function in MS Excel's Data Analysis Tool Pack is used to assess the validity of trend lines fitted to the sample data. The regression analysis is divided into several groups including regression statistics, analysis of variance (ANOVA), parameter estimates, residuals, and plots. Of interest to this study are the ANOVA and the parameter estimates.

The ANOVA tests the null hypothesis that the slope of the regression line is zero. The final column in the ANOVA table, labeled *Significance F*, shows the probability that the slope of the regression line is zero, and that the null hypothesis is true. As an example, at the 95 % confidence level, the null hypothesis can be rejected if the value in this column is less than 0.05.

The parameter estimates show the slope and intercept of the regression line, as well as the upper and lower bounds of each of these parameters. The range between the upper and lower parameter bounds is calculated so that the true value of the parameter will fall within these bounds 19 times out of 20. If the signs of the upper and lower bound of the slope parameter are

opposite, a great deal of doubt is cast upon the validity of the trend line. If this is the case, it is likely that the null hypothesis could not be rejected based on the ANOVA.

3.5.4 Significance Testing

The goal of significance testing is to determine whether the difference between two populations is significant or could be due to random chance. As with the ANOVA and parameter estimates, significance testing is carried out at the 95 % confidence level. A two-sample t-test assuming equal variances is used in this project to determine whether differences between populations are significant at the 95 % confidence level.

Significance testing is carried out when two populations of bridges show considerable differences in corrosion levels over time. When the primary investigation indicates that one sub-population of bridges has higher corrosion levels than another, a one-way significance test is carried out on data groups for all deck ages. This helps to determine the percentage of test groups showing significant differences, and at what age these differences are most severe. If differences are found to be significant at a majority of deck ages, the difference is deemed real.

3.6 Summary Flowchart

The flowchart presented in Figure 3.7 outlines the steps that were undertaken in this project. The ovals represent the beginning and end of the project. The rectangles represent activities that were carried out during the course of the project. Diamonds represent decisions that must be made prior to the start of the next activity.

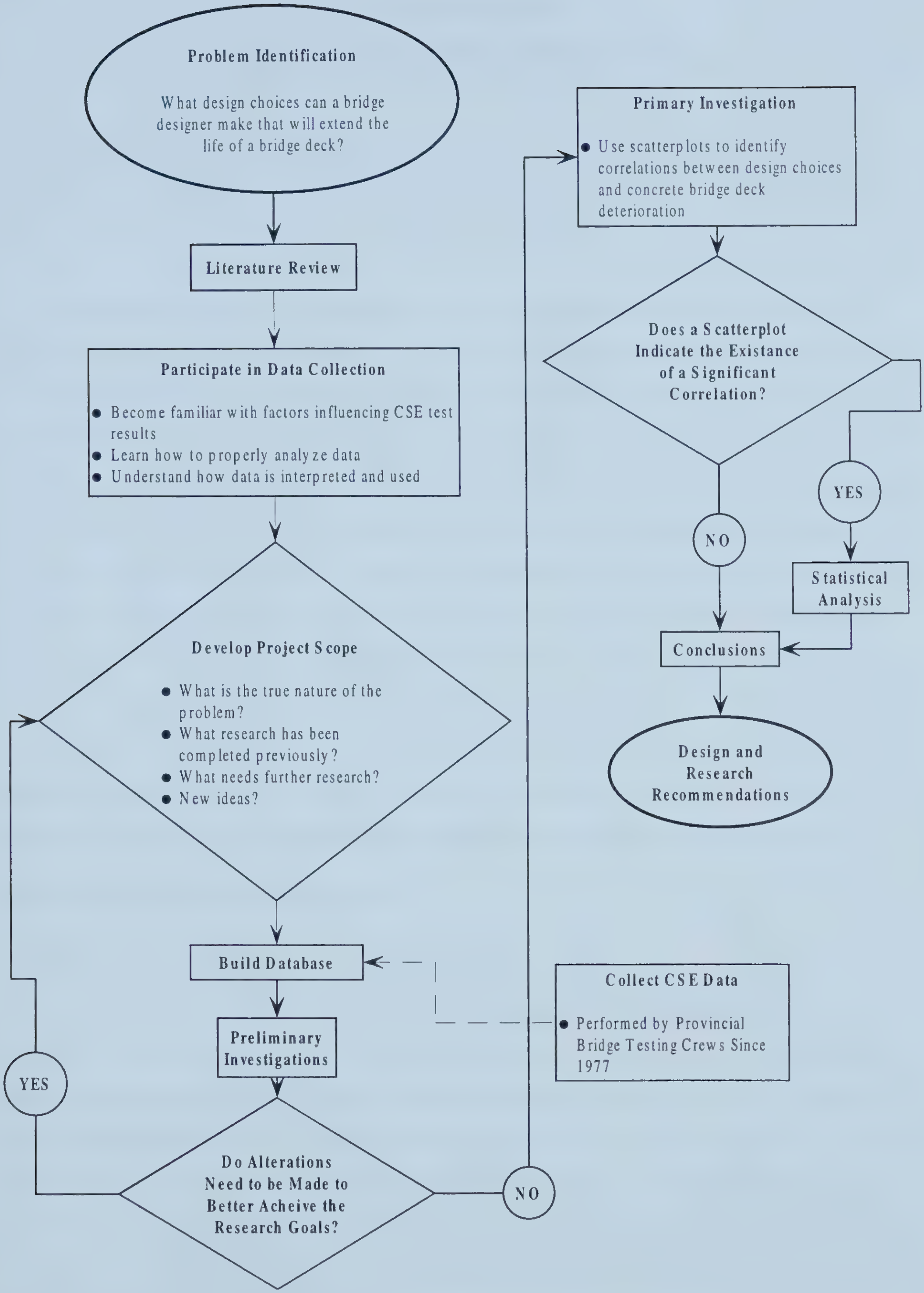

Figure 3.7: Summary Flowchart

CHAPTER 4
RESULTS AND ANALYSIS

As indicated in Chapter 1 and Chapter 3, the goal of this project is to determine design-based causes of bridge deck deterioration by comparing trends in CSE test data. This chapter presents the CSE data obtained from Alberta Transportation, and analyses of the causes of the observed trends.

A significant difference is found between the deterioration trends of steel and concrete girder bridges. Decks on steel girder bridges are found to deteriorate at a higher rate than decks on concrete girder bridges. The deterioration trends of steel and concrete girder bridges will be characterized in § 4.1 of this chapter. Differences in the characteristics of the two populations will also be reviewed. § 4.2 examines the effects of continuity on the deterioration of bridge decks. Analysis of the figures in § 4.2 will demonstrate that decks on continuous spans deteriorate faster than decks on simple spans. § 4.3 investigates the effects of girder stiffness by examining maximum curvature of the girders. § 4.4 examines the effects of girder spacing by looking at the transverse span-to-depth ratio of the bridge deck. Beginning with § 4.5, the investigation shifts away from factors influencing the difference between steel and concrete girder bridges, and towards design choices made independent of superstructure type. In § 4.5, cover depth is found to have very little influence on the corrosion of the top mat of reinforcing steel. The effect of the quantity and layout of steel in the top mat of reinforcing is extensively investigated in § 4.6. In the final three sections, the effects of skew, intermediate diaphragms, and maintenance and rehabilitation are examined. A summary of all results is provided at the end of the chapter.

4.1 Steel Versus Concrete Superstructure

Observations on the relative effects of steel and concrete superstructures were the first to be made. All bridges within the CSE testing program were included and were divided into two populations based on principal span type (steel and concrete). No further filtering of the data was done. The choice of span type is such a fundamental part of the design process that it is likely to influence other design choices, and limiting the data involved in the test by restricting other design variables within the population would likely introduce a bias in the study. The CSE test results were then grouped by the age of the deck from which they were acquired. An average test value was calculated for groups that had an adequate quantity of independent test results. Only groups with at least three independent test results were considered large enough to produce a reliable average test value. Average test results for the two populations were then plotted against deck age on the same plot, allowing comparisons and observations to be made.

Figure 4.1 shows average CSE readings for steel and concrete structures plotted against deck age. The flat slopes of the trend lines and the noticeably low R^2 values show that there is not a strong relation between the age of the deck and the average CSE reading. The relatively small amount of scatter in the data provides a high level of confidence in other conclusions derived from it. The most obvious conclusion that can be drawn from Figure 4.1 is that bridge decks supported by steel girders have higher average CSE readings than decks supported by concrete girders. Unlike many other plots in this report, the difference between steel and concrete populations is distinct. There is very little overlap in the scatter of the two groups of data points, with significant separation in the period prior to rehab.

A statistical analysis of the data in Figure 4.1, which can be found in Appendix A, shows that there is merit to the conclusions reached by observation. Of the 35 individual deck ages for which data for both concrete and steel bridges exist, 18 show a significant difference in deck corrosion levels at the 95 % confidence level. For the period following corrosion initiation and prior to rehabilitation (9 to 25 years), a significant difference between the two populations exists at more than three quarters of the deck ages. Since bridges are generally rehabilitated to similar standards, corrosion levels following rehabilitation are more consistent across the entire population of bridges. Prior to rehabilitation, steel girder bridges show significantly higher corrosion levels than concrete girder bridges.

A far greater dependence on deck age is revealed by the percentage of CSE readings in the active corrosion range. Figure 4.2 shows how corrosion levels of steel bridges rise much quicker than corrosion levels of concrete bridges. Approximately five percent of CSE test readings on ten-year-old concrete bridges are in the active corrosion range. For steel bridges of the same age, the number of test readings in the active range rises to nearly 25 %. Prior to rehabilitation, more than a third of test readings on steel bridges are actively corroding, compared to less than 20 % on concrete bridges.

Figure 4.2 also suggests that steel bridges are undergoing rehabilitation about ten years earlier than concrete bridges. Decks supported on steel girders are rehabilitated at approximately 20 years of age. Decks supported by concrete girders are rehabilitated after approximately 30 years. Steel bridges appear to respond better to rehabilitation than concrete bridges, as their corrosion levels fall much further in later years than corrosion levels of concrete bridges. Because concrete bridges are in better condition prior to rehabilitation, the work done on them is probably not as aggressive as the work done to rehabilitate steel bridges. The end goal of the rehabilitation of both structures is likely the same, causing the difference in corrosion levels between the two populations to decrease in older decks.

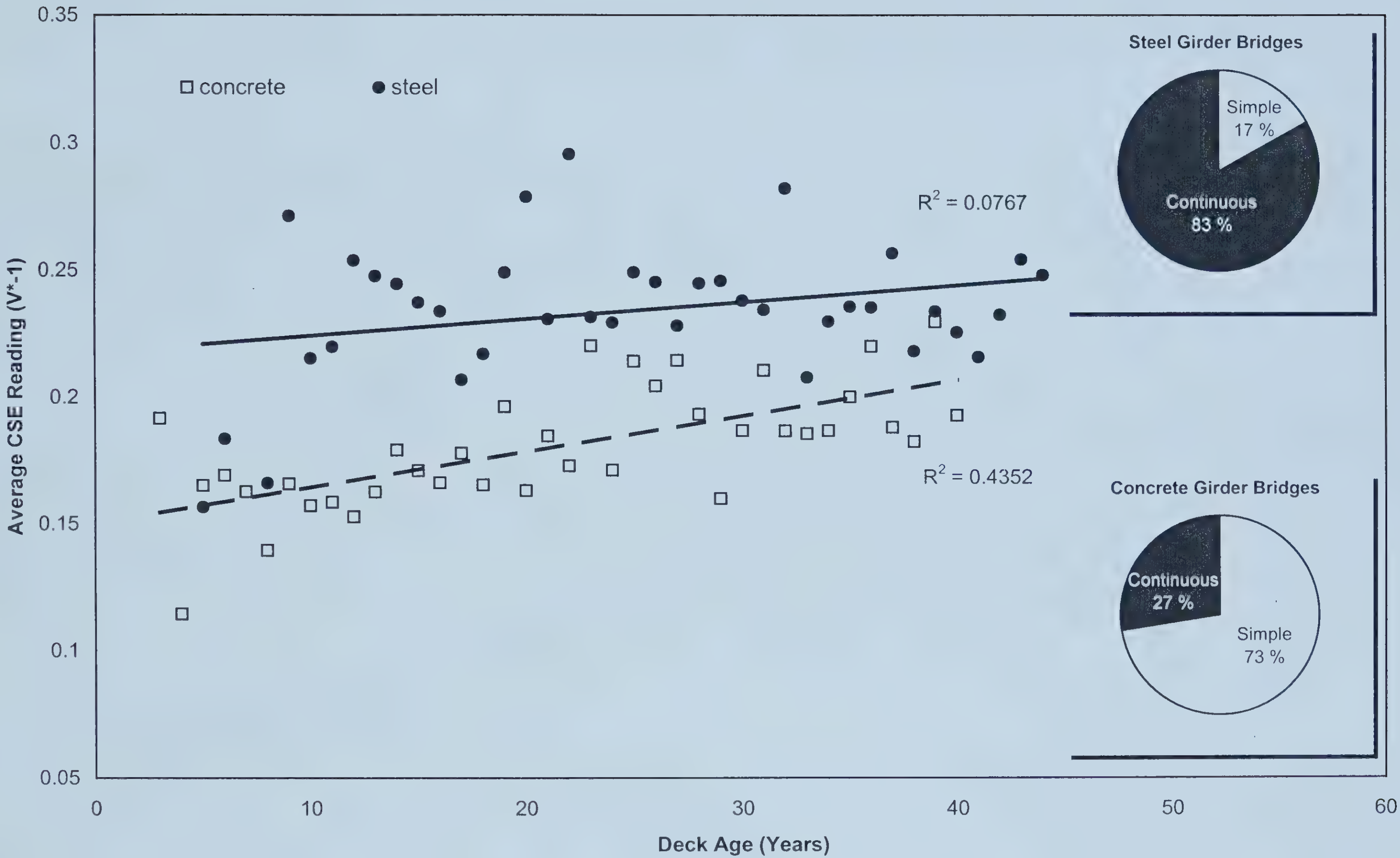

Figure 4.1. Average CSE Readings for Steel and Concrete Superstructures v. Deck Age

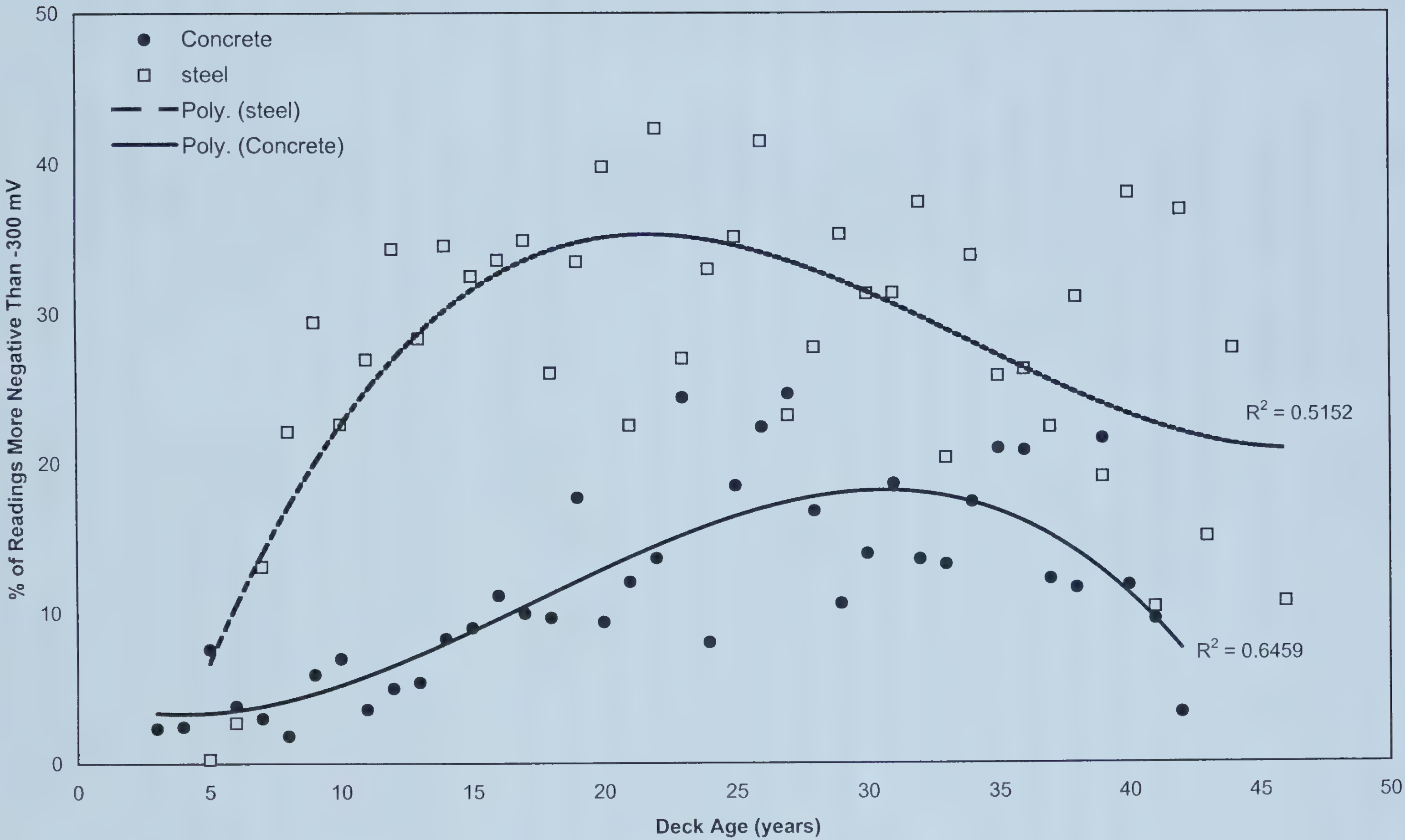

Figure 4.2. Average % CSE Readings More Negative Than -300 mV v. Deck Age For Steel and Concrete Girder Bridges

In Figure 4.3, rehabilitated bridge decks have been removed from the sample populations. Steel structures again show a rapid increase in active deck corrosion starting at about five years of age. Corrosion levels in both populations increase at approximately the same rate from an age of 12 years on. The increased scatter of the steel data for older bridge decks is because of the relatively small number of non-rehabilitated steel bridges older than 25 years.

Having established that steel bridges do show higher average CSE readings and a greater percentage of CSE readings in the corrosive range, the question arises as to why concrete decks supported by steel girders in Alberta deteriorate faster than those supported by concrete girders. Is the difference due to construction quality as Dunker and Rabbat believe, or is it a result of strain incompatibilities between the two materials as Sotiropoulous and GangaRao have indicated, or are different design traits unique to each type of structure responsible for the poor performance of steel girder bridges? In this type of study, it is difficult to gauge the construction quality of the different structures. In studies by Dunker and Rabbat, the structures were constructed by many different transportation authorities using several sources of funding. The standard to which American structures are designed often depends on which agency is funding their construction. In this study, all structures were funded and managed by a single transportation authority, making the likelihood of systematic differences in construction quality very low. Without experimental data, it is difficult to assess whether strain incompatibilities between steel and concrete play a significant role in promoting concrete deterioration. The difference between the thermal coefficients of steel and concrete is small (15 %), with the coefficient of steel being slightly higher. The fact that the concrete deck, exposed to direct sunlight, heats up quicker than the steel should help to reduce thermal stresses even further. Whether or not significant differences in the design of steel and concrete bridges exist needs to be investigated further in order to determine their effects.

Table 4.1 shows some of the quantifiable design differences between steel and concrete bridges. The largest difference between the two populations is the percentage of continuous bridges in each. These ratios are also shown in the pie charts on Figure 4.1. The proportion of steel bridges that are continuous is almost three times that of concrete bridges. Longitudinal tension in the majority of decks on steel girder bridges is likely increasing their rate of transverse cracking, increasing the amount of premature corrosion. The stiffness coefficient (EI/L) of the individual girders is, on average, approximately the same. The average girder spacing for steel bridges is, however, almost 50 % higher than for concrete bridges. Higher girder spacing means that there are fewer girder rows on the bridge, and that more load is being taken by each girder. The result of this higher load is, on average, a 200 % higher relative deflection (Δ/L), and more stress in the deck. The wider girder spacing also leads to a 20 % increase in the average transverse span to depth ratio of the deck, causing it to work harder and become more susceptible to longitudinal

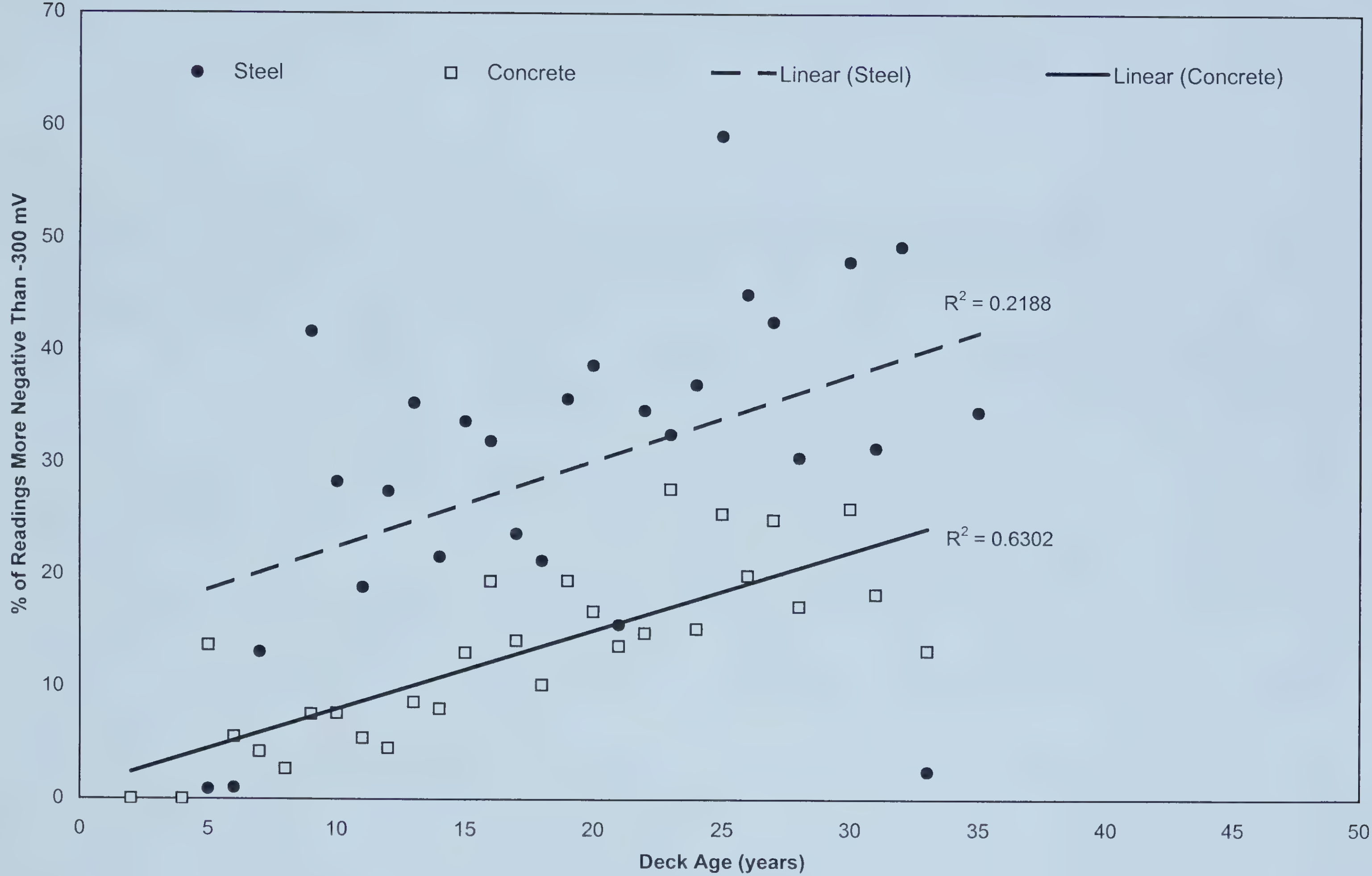

Figure 4.3. % CSE Readings More Negative Than -300 mV v. Deck Age for Non-Rehabilitated Decks

Table 4.1. Differences Between Steel and Concrete Girder Bridges

Superstructure Type	Average Span Length	Average Girder Spacing	Average EI/L	Average Δ/L	% Continuous	Average Transverse Span to Depth Ratio
Steel Girder	34.7 m	2.68 m	8.37E+10	0.033	83	15.05
Concrete Girder	31.5 m	1.81 m	8.57E+10	0.011	27	12.59

cracking over the girders. These common design traits are, in part, responsible for the poor deck durability of steel girder bridges when compared to concrete girder bridges. The following three sections will examine these design traits more closely.

4.2 Continuity

The use of continuous or jointless bridge decks has increased steadily over the past few decades. Problems associated with deck joints have led designers to eliminate them from many bridges. Many of the biggest problems associated with deck joints are either associated with the girders and substructure, or with the joints themselves. Significant damage to the deck is rarely a result of deck joints. Damage attributed to the joints is generally limited to localized delamintations and spalling in the immediate vicinity of the joint.

Continuity changes the set of forces to which the deck is subjected. Tensile stresses in negative bending moment regions promote transverse cracking of the deck and initiating corrosion of the top mat of reinforcing. Figure 4.4 and Figure 4.5 show how the tensile forces within continuous decks promote corrosion. Figure 4.4 shows average CSE readings versus time for continuous and simple structures. The difference between the two populations is most evident in younger decks, and becomes less pronounced as the decks age and are maintained and rehabilitated to similar standards. Significance testing carried out at each year for which data is available for both populations shows that a significant difference exists at 39 % of the deck ages. For the period following corrosion initiation and prior to rehabilitation (9 to 25 years), the percentage of deck ages at which a significant difference in corrosion levels exists rises to 65 %. A spreadsheet printout of the significance tests can be found in Appendix A.

Figure 4.5 shows the same plot as Figure 4.4, but with rehabilitated decks removed. The data shows that corrosion levels increase much quicker during early years of continuous bridge decks than for simple spans. Corrosion levels continue to increase at similar rates after approximately 10 years. After 10 years, the negative moment regions of the decks have likely reached a fully cracked state. Following this, the rate at which corrosion levels in continuous spans increase is driven by the same factors as in simple spans, resulting in the near parallel trend lines.

Figure 4.6 addresses the role that continuity plays in causing the differences in deterioration trends between steel and concrete girder bridges. Average percentages of CSE values in the corrosive range for four span types, simple steel, continuous steel, simple concrete, and continuous concrete are presented. The small amount of data for simple span steel bridge was deemed insufficient to draw any conclusions. As seen in the previous section, steel bridges show significantly higher corrosion levels than concrete bridges. Figure 4.6 shows that,

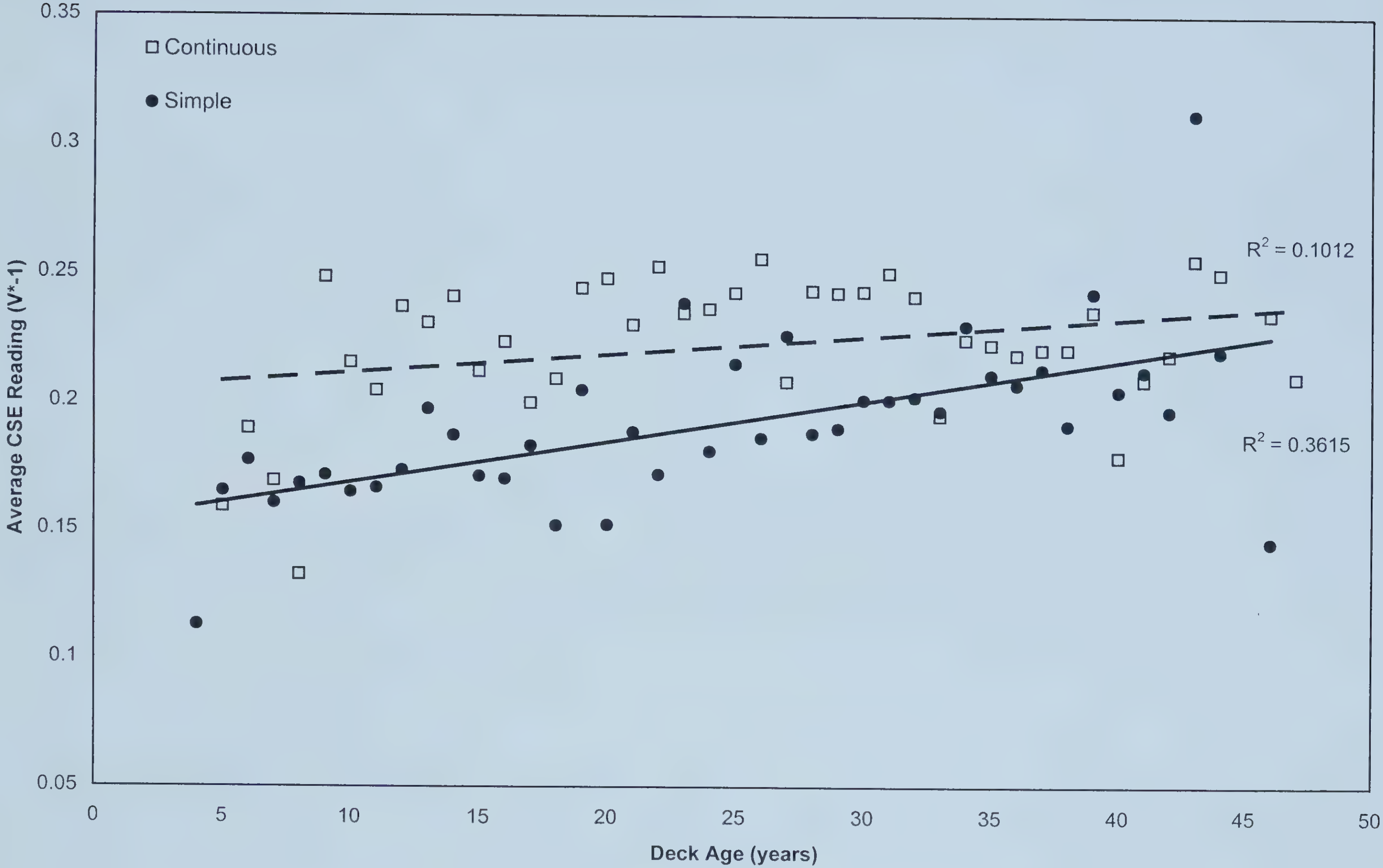

Figure 4.4. Average CSE Readings for Simple and Continuous Spans

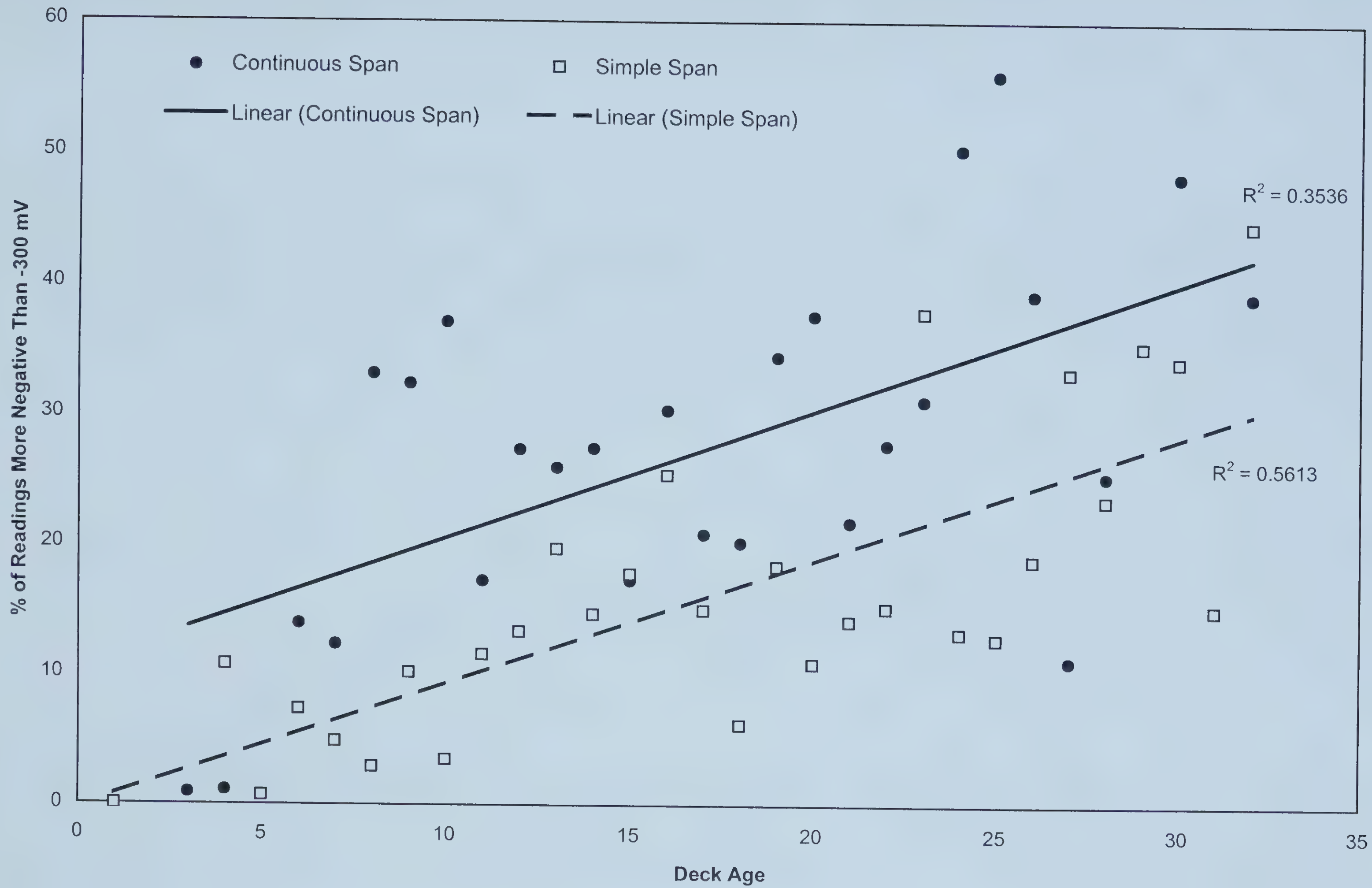

Figure 4.5. Average % CSE Readings More Negative Than -300 mV v. Deck Age for Non-Rehabilitated Simple and Continuous Spans

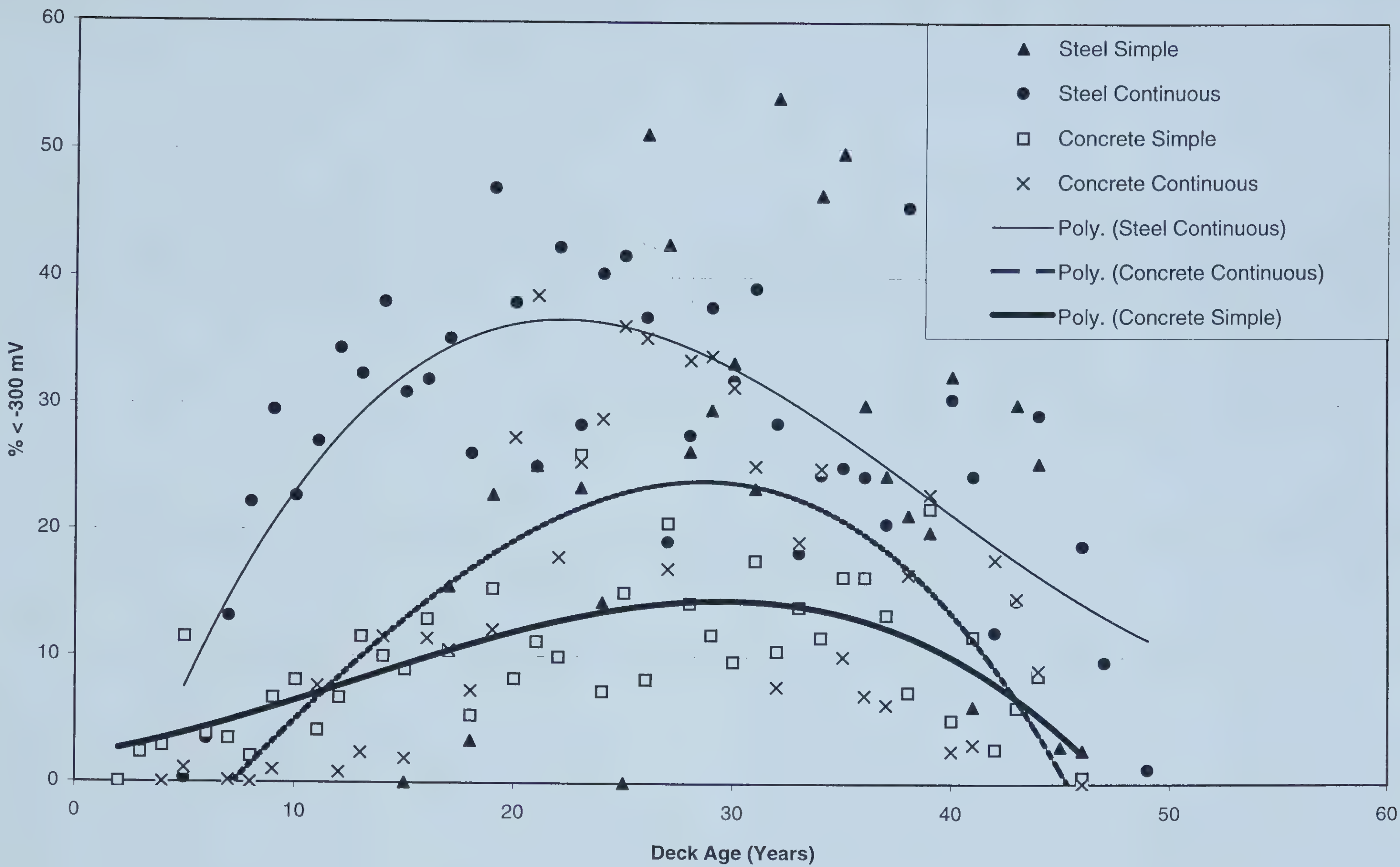

Figure 4.6. Average % CSE Readings More Negative Than -300 mV v. Deck Age

for concrete bridges, continuity increases corrosion levels but only slightly affects the time to rehabilitation. Continuous steel bridges are typically rehabilitated approximately ten years before both continuous and simple span concrete girder bridges. Continuous concrete girder bridges are typically rehabilitated approximately one or two years before simple span concrete bridges. As in previous figures, steel bridges are rehabilitated when their decks are approximately 20 years old, while concrete bridges are rehabilitated when their decks are approximately 30 years old.

Where deck joints are involved, the deterioration of the deck is not the main concern. Maintaining a watertight seal in the joint to prevent water from leaking on to girder ends and substructure elements is where resources are expended. Maintaining a watertight seal requires regular inspection and frequent maintenance. Water and salt solution leaking through joints can cause accelerated deterioration of prestressed girder ends and concrete pier caps. Girders and substructure elements are often difficult to access and inspect. Lack of access to these elements increases the chance of structural failure and makes maintenance and rehabilitation more expensive. Although continuous bridge decks deteriorate more quickly than do those with joints, the benefits of continuity to the remainder of the structure make it the desirable option. To deal with the accelerated deterioration of continuous decks, designers need to incorporate details to minimize transverse cracking in negative moment regions.

4.3 Girder Stiffness

The longitudinal stiffness of a deck on girder system controls the vertical deflection and longitudinal curvature of the deck. Girders with higher flexibility deflect further when loaded, putting higher stresses on the deck and encouraging its propensity to crack. Whether the range of stiffness in the Alberta bridge inventory is large enough to affect the durability of the decks is unknown. If it is, corrosion levels should increase with the flexibility of the system.

To compare the stiffness of girders from different structures, a relative idea of how much live load each girder receives is needed. Assuming all bridges are loaded in a similar manner, the amount of load carried by each girder is a function of girder spacing and span length. Girders spaced further apart will carry more load and deflect further than those spaced closer together. For equal deflections, deck stresses will be higher for shorter spans than for longer spans due to increased curvatures in the shorter spans. Therefore, by comparing curvatures of different bridges under the same loading condition, the influence of superstructure stiffness on bridge deck durability can be assessed.

Figure 4.7 shows all test results plotted against maximum calculated curvature. Curvature values were obtained by applying a uniformly distributed load of 12 kN/m^2 to all bridge decks. Maximum

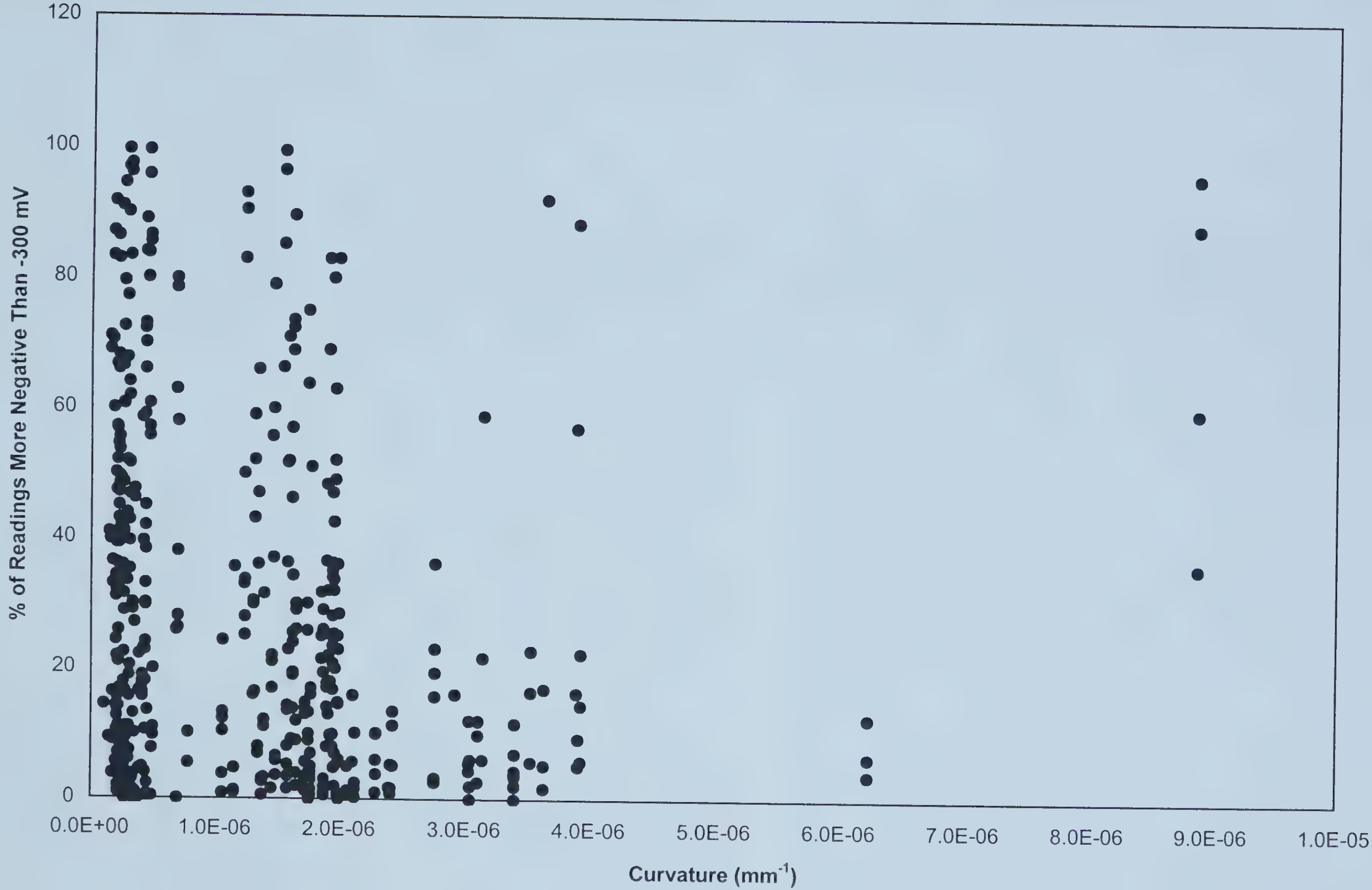

Figure 4.7. % CSE Readings More Negative Than -300 mV v. Maximum Longitudinal Curvature

curvature of simple spans occurs at the location of maximum positive moment, while maximum curvature of continuous spans occurs at the location of maximum negative moment. Although no trends are immediately apparent, the majority of the data points are grouped in two distinct curvature ranges. Those points grouped around a curvature value of 3.0×10^{-7} mm^{-1} represent tests of continuous bridges, while those grouped around a curvature value of 1.8×10^{-6} mm^{-1} represent tests of simple span bridges. Since the stresses present in the decks of these two populations are different, they were separated from one another for further investigation.

Figure 4.8 shows the average percentage of CSE readings indicating active corrosion for ranges of curvature values grouped at intervals of 1.0×10^{-6} mm^{-1} for simply supported structures. As an example, the first point is the average of all test results for bridges showing curvatures in the range of 0.5×10^{-6} mm^{-1} to 1.5×10^{-6} mm^{-1}. The point is plotted at the middle of the range. Using average values helps to eliminate the scatter obvious in Figure 4.7. The trend line in Figure 4.8 shows that there is no relation between the flexibility of simply supported girders and corrosion of the top mat of reinforcing steel. Since positive curvature puts the deck in compression, it does not promote transverse cracking and provides no means to initiate premature accelerated corrosion.

Figures 4.9 and 4.10 show the same thing as Figures 4.7 and 4.8, but for continuous structures. Average corrosion levels increase slightly as the girders become more flexible, but the trend line, created from the full set of data points suggests that there is no relation between deterioration and girder flexibility. Since the maximum curvature of continuous structures occurs in negative moment regions, the deck is placed in tension. The amount of tension in the deck increases as the system becomes more flexible, theoretically increasing the amount of transverse cracking and allowing the steel to be exposed to higher levels of corrosive elements. A regression analysis shows that the trend line in Figure 4.10 does not represent any significant relationship. A spreadsheet printout of the regression analysis can be found in Appendix A.

4.4 Deck Transverse Span-to-Depth Ratio

The transverse span-to-depth ratio of a bridge deck is calculated by dividing the girder spacing by the thickness of the deck. The flexibility of the bridge deck increases with the span-to-depth ratio, increasing its susceptibility to longitudinal cracking over girder lines. Bridge decks in Alberta are designed with a span-to-depth ratio of between 5 and 20, with the majority lying between 10 and 15.

Figure 4.11 shows the average percentage of CSE readings plotted against ranges of span-to-depth ratios. Each point represents the average CSE reading for all bridge decks with span-to-depth ratios within 0.5 of either side of the data point. As expected, the trend in the data is

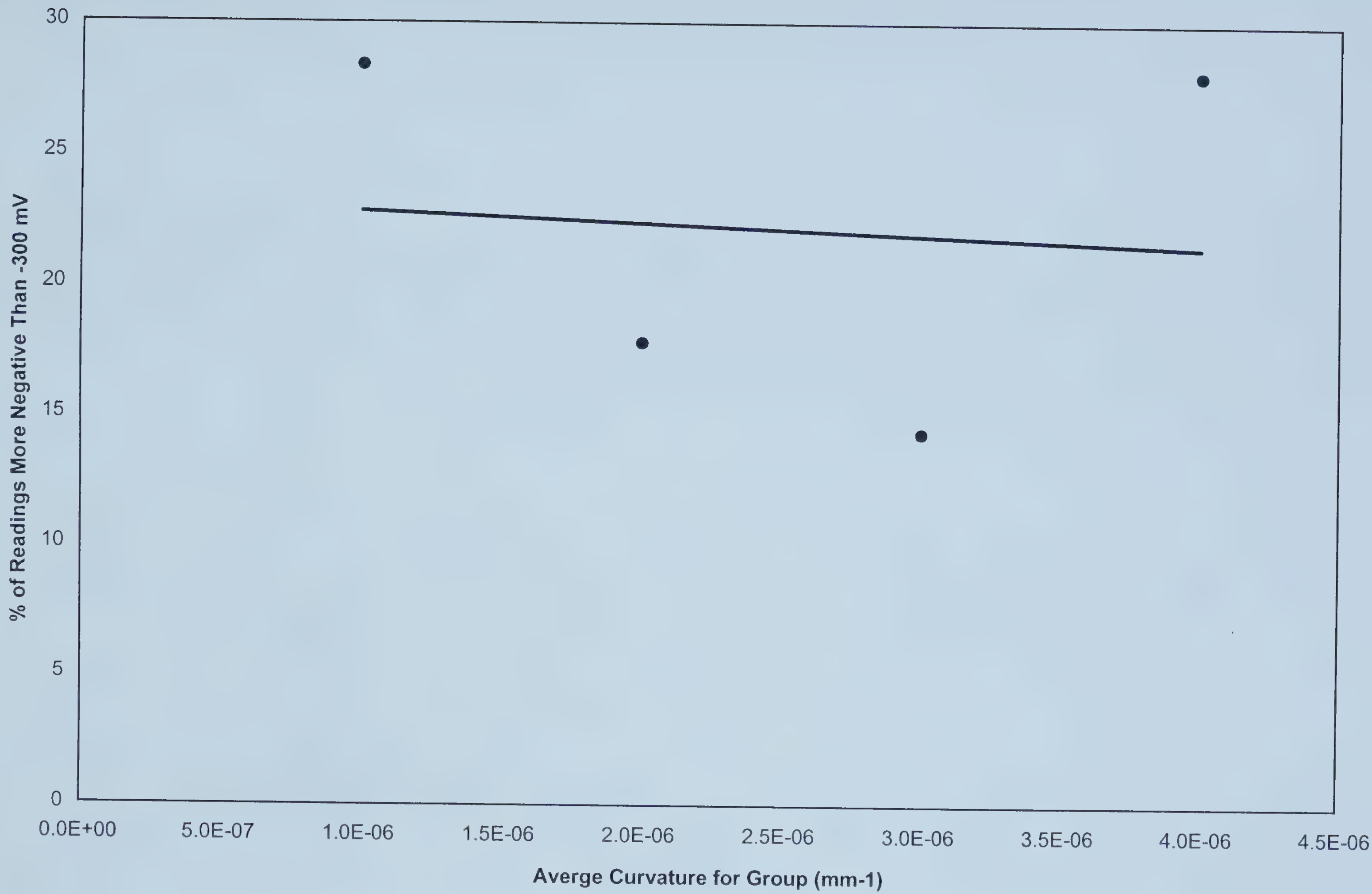

Figure 4.8. Average % CSE Readings More Negative Than -300 mV v. Grouped Curvatures for Simply Supported Decks 20 - 35 Years Old

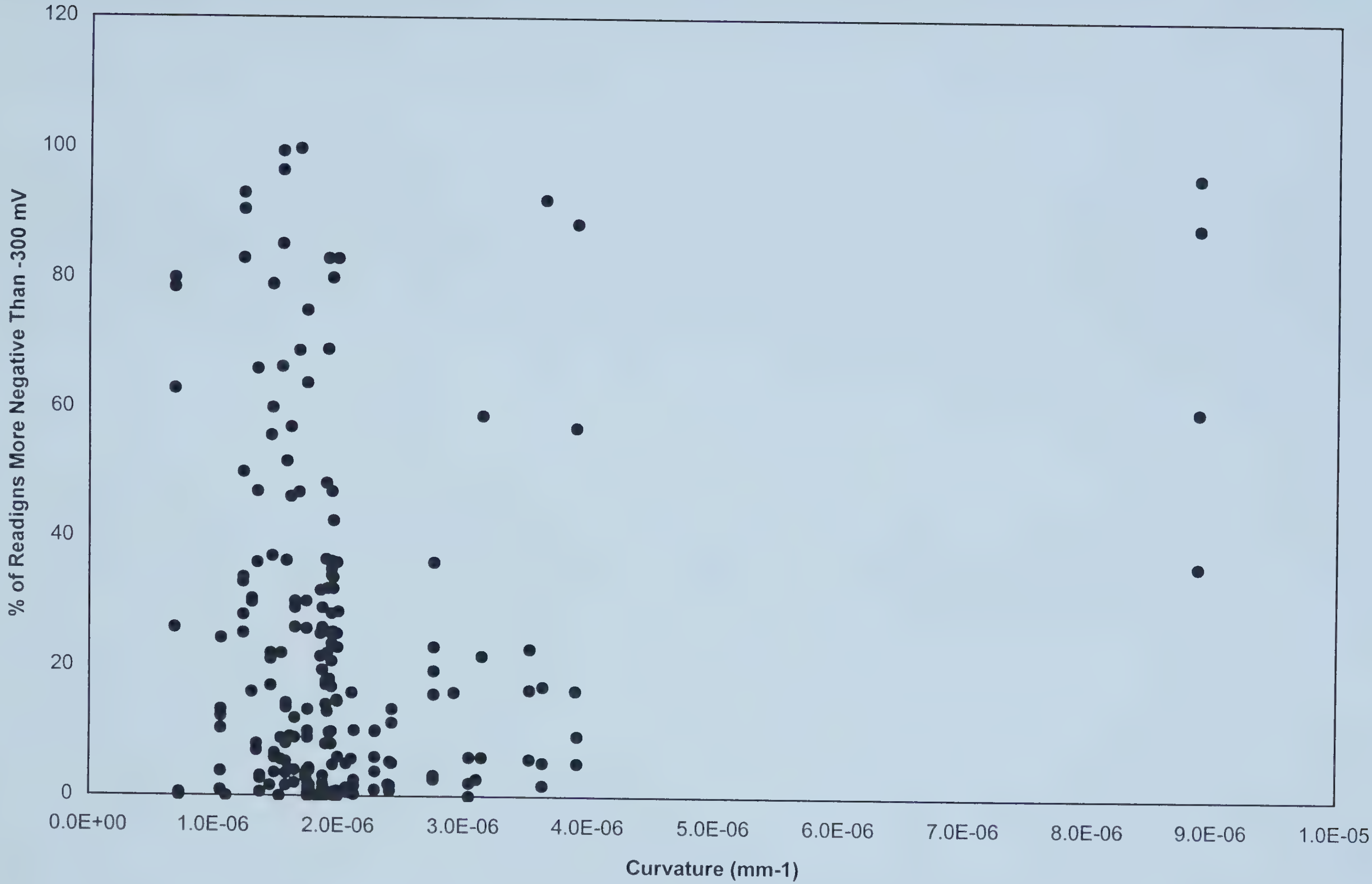

Figure 4.9. % CSE Readings More Negative Than -300 mV v. Curvature of Simple Span Decks 20 to 35 Years Old

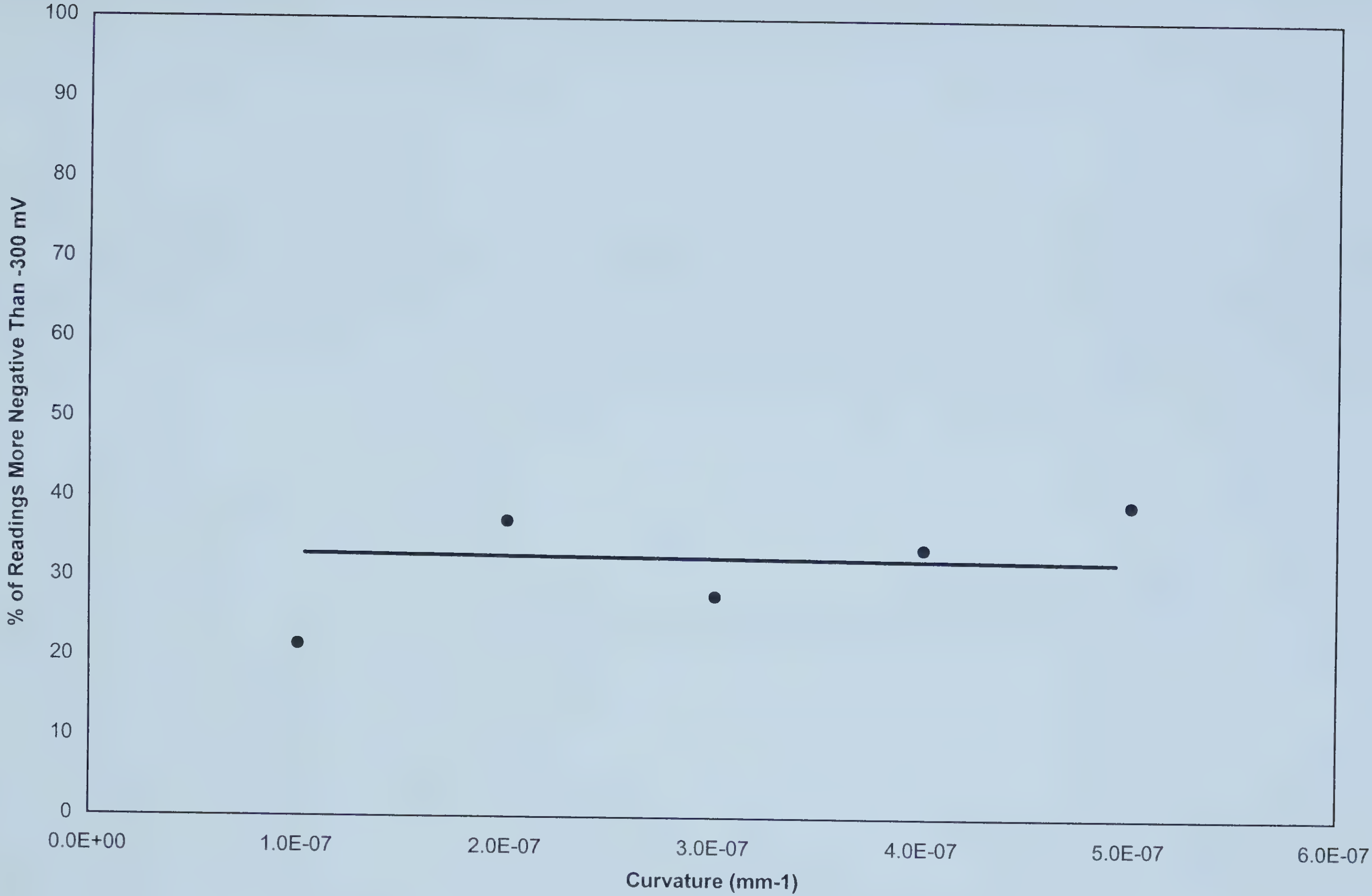

Figure 4.10. Average % CSE Readings More Negative Than -300 mV v. Grouped Curvatures for Continuous Decks 20 - 35 Years Old

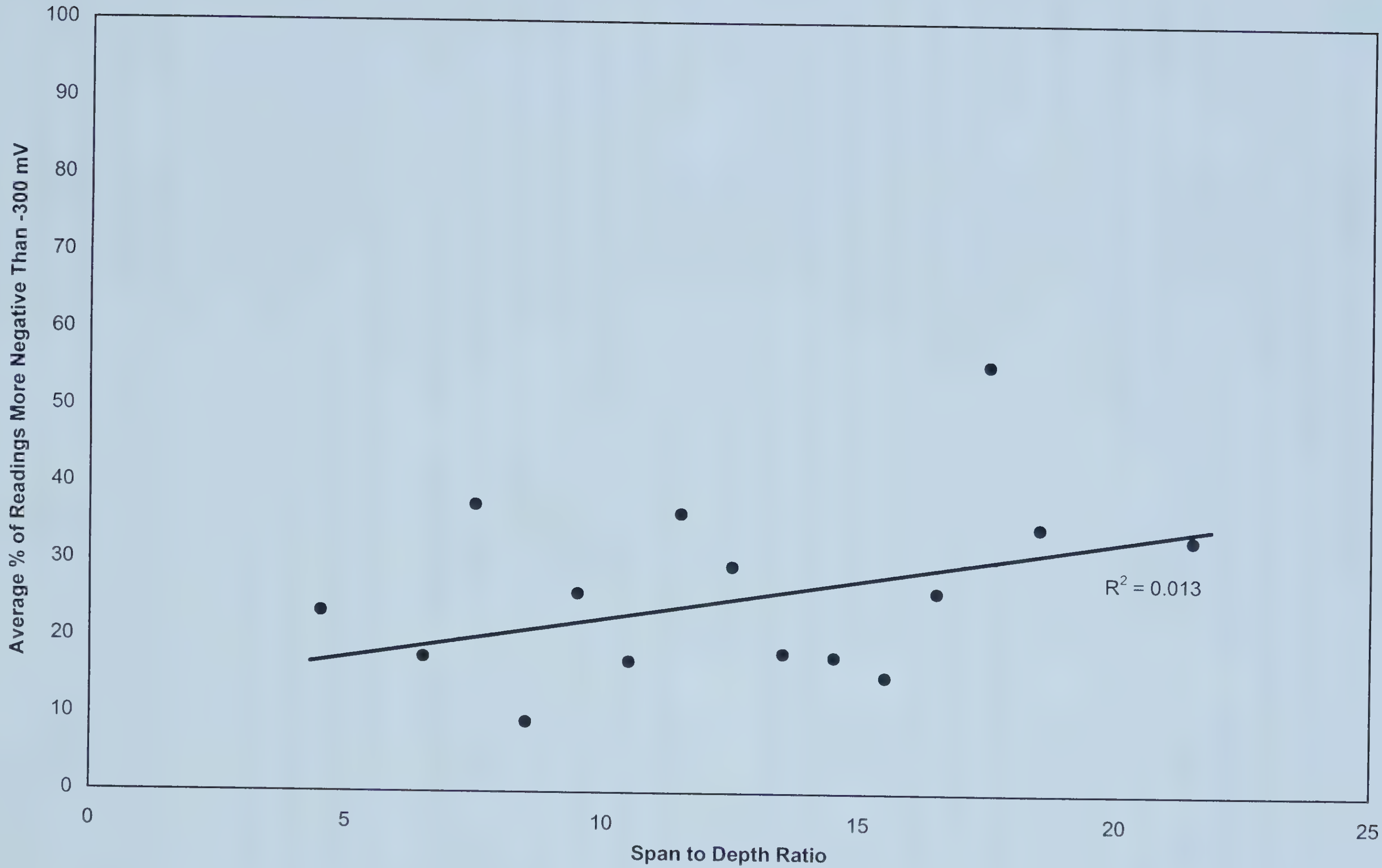

Figure 4.11. Average % CSE Readings More Negative Than -300 mV v. Several Ranges of Transverse Span to Depth Ratios for 20 - 30 Year Old Decks

positive, indicating an increase in deck corrosion with an increase in span-to-depth ratio. However, the low correlation coefficient, due to the high scatter and low slope, places doubt on the validity of the trend line. A statistical analysis of the trend line based on the entire data set shows that the slope of the actual trend line could lie anywhere between –3.2 and 33.2 at the 95 % confidence level. The ANOVA does not rule out the possibility that no significant relationship exists between the two variables. Although the statistical analysis does not support a linear relationship at the 95 % confidence level, there is a weak trend suggesting that span-to-depth ratio effects deck corrosion. The regression analysis can be found in Appendix A.

4.5 Cover Depth

For this project, cover depth indicates the design cover over the reinforcing bars. The design cover is the thickness of the concrete from the top of the deck surface to the top mat of reinforcing steel. In uncracked concrete, cover depth dictates the time it takes for corrosive elements to reach the top mat of steel reinforcing. Large cover depths increase the time it takes chloride solutions to migrate through to the steel and initiate corrosion. Corrosion levels depend on the availability of corrosive elements. Higher cover depths slow the build up of corrosive elements, reducing corrosion levels early on in the life of a bridge deck and extending its life. Cracking of the concrete eliminates any benefit provided by cover.

To assess the effects of cover depth, uncracked decks must be isolated from cracked decks. The condition of concrete bridge decks has been assumed based on structure type. Uncracked decks are defined as those that are part of simple span concrete girder bridges. All continuous (jointless) decks are presumed cracked, as are all decks supported by steel girders. Longitudinal negative bending moments in continuous structures cause transverse cracking in bridge decks. Maintenance experts indicate that steel girder bridges are significantly more likely to exhibit deck cracking, which is why even simple span steel bridges were assumed to have cracked decks.

Figure 4.12 shows the benefits that can be achieved by maintaining concrete in an uncracked condition. Non-rehabilitated, uncracked bridge decks show a definite decrease in corrosive activity with an increase in cover depth. Corrosion levels of cracked decks, on the other hand, show almost no relation to the thickness of concrete cover, especially for cover depths greater than 40 mm.

The correlation between average grouped cover depth and average corrosion levels in Figure 4.12 is very high, with a coefficient of determination of 0.89. A model constructed with all the data points, as opposed to just the average data points, is represented by the dashed line. The coefficient of determination for this model is significantly lower. Regression analyses show that

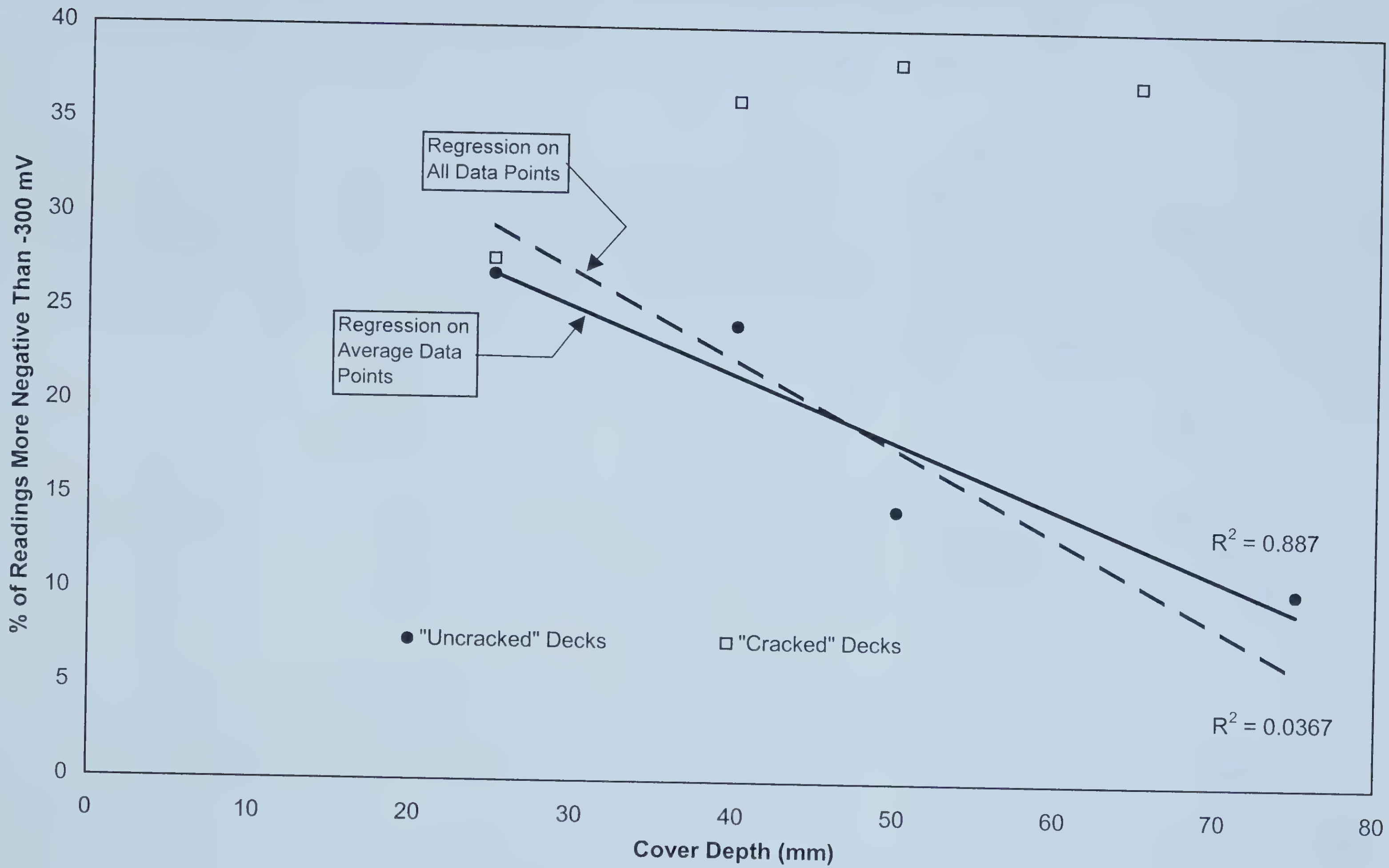

Figure 4.12. % CSE Readings More Negative Than -300 mV v. Cover Depth for Non-Rehabilitated Decks 20 - 35 Years Old

both relationships are significant at a greater than 92 % confidence level. With a coefficient of determination as high as 0.89 it is difficult to dismiss the probability that cover depth plays a significant role in preventing deterioration in uncracked concrete. It is likely that, had data existed for a wider range of cover depths, the relationship would have been proven even more significant. The low correlation shown in the model constructed from all the data is due to the high amount of scatter typical of real-world test results. A spreadsheet printout of the regression analyses can be found in Appendix A.

The ability to preserve concrete decks in an uncracked condition is brought into question by Figure 4.13. Figure 4.13 shows average CSE readings plotted against deck age for decks with less and more than 50 mm of cover. There is very little difference between the trends of the two populations, indicating that the depth of cover is having little effect on corrosion levels. Trend lines show that the difference between the two populations is most pronounced for younger decks.

Figure 4.14 shows a plot similar to that of the previous figure, but with distinct cover depths instead of ranges of cover depths. If decks are predominantly uncracked, Figure 4.12 indicates that the difference in the percentage of CSE readings in the corrosive range between the two cover depths should average 13 % between 20 and 35 years of age. Figure 4.14 shows that there is virtually no difference in corrosion levels between the two cover depths at any age, indicating again that cover depth is having little influence on deck corrosion due to cracking.

Although it is likely that cover depth can play a significant role in reducing deck corrosion, the inability to maintain the majority of bridge decks in an uncracked condition appears to be limiting its effectiveness. The push towards longer spans and jointless bridge decks is increasing the crack-causing stresses that a bridge deck must endure. A greater emphasis needs to be put on the use of flexible waterproofing membranes and advanced crack control practices, and not on increased cover, in order to improve the durability of bridge decks. As long as decks are cracked, cover depth will have little effect on their durability.

4.6 Reinforcing Ratio and Bar Configuration

Several different ways of quantifying the amount and position of reinforcing steel were investigated. It was suspected that reinforcing ratio, bar size, bar spacing, footprint size, and surface area of the steel might affect CSE readings. Each was examined individually.

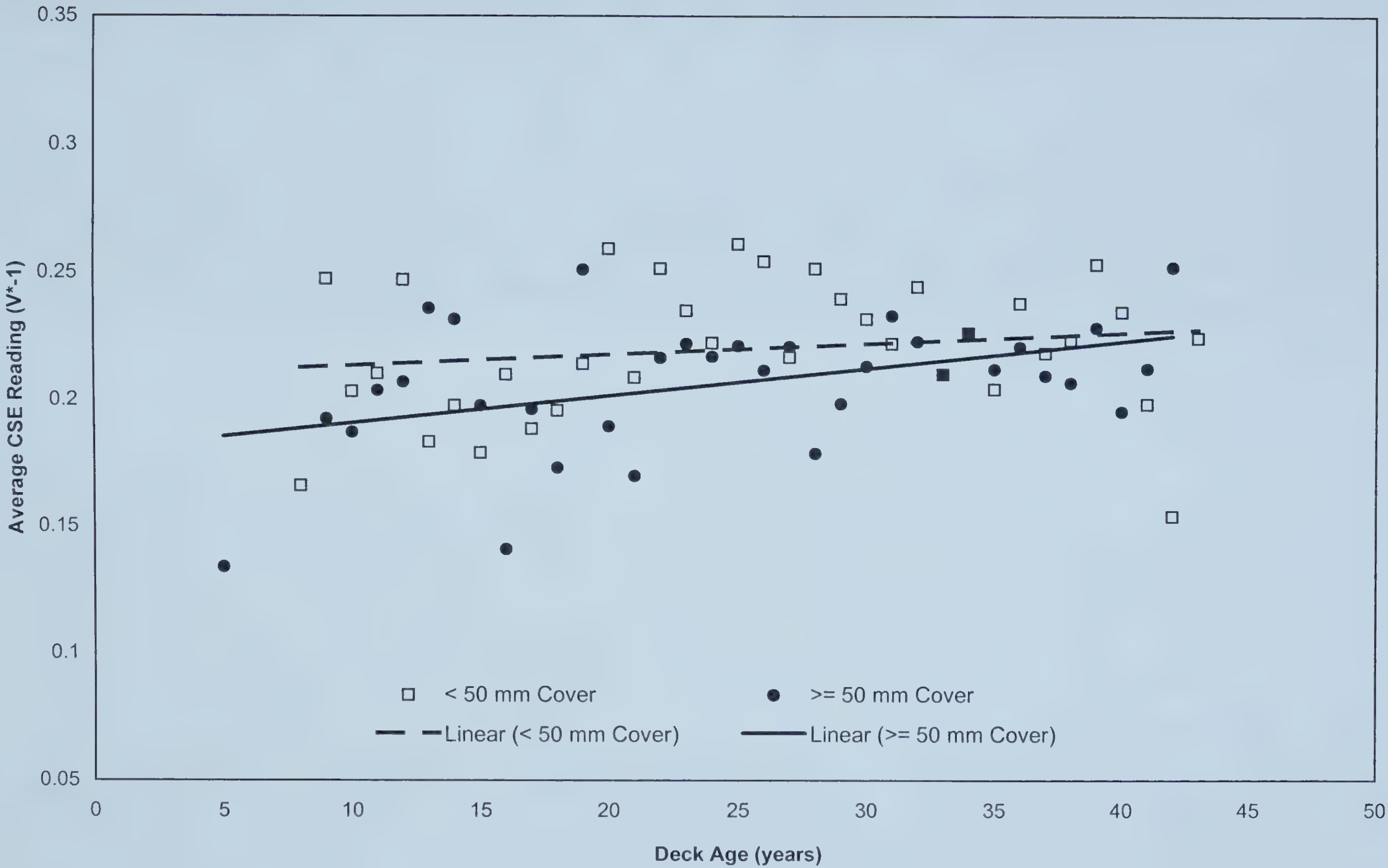

Figure 4.13. Average CSE Reading v. Deck Age For Various Reinforcement Cover Depths

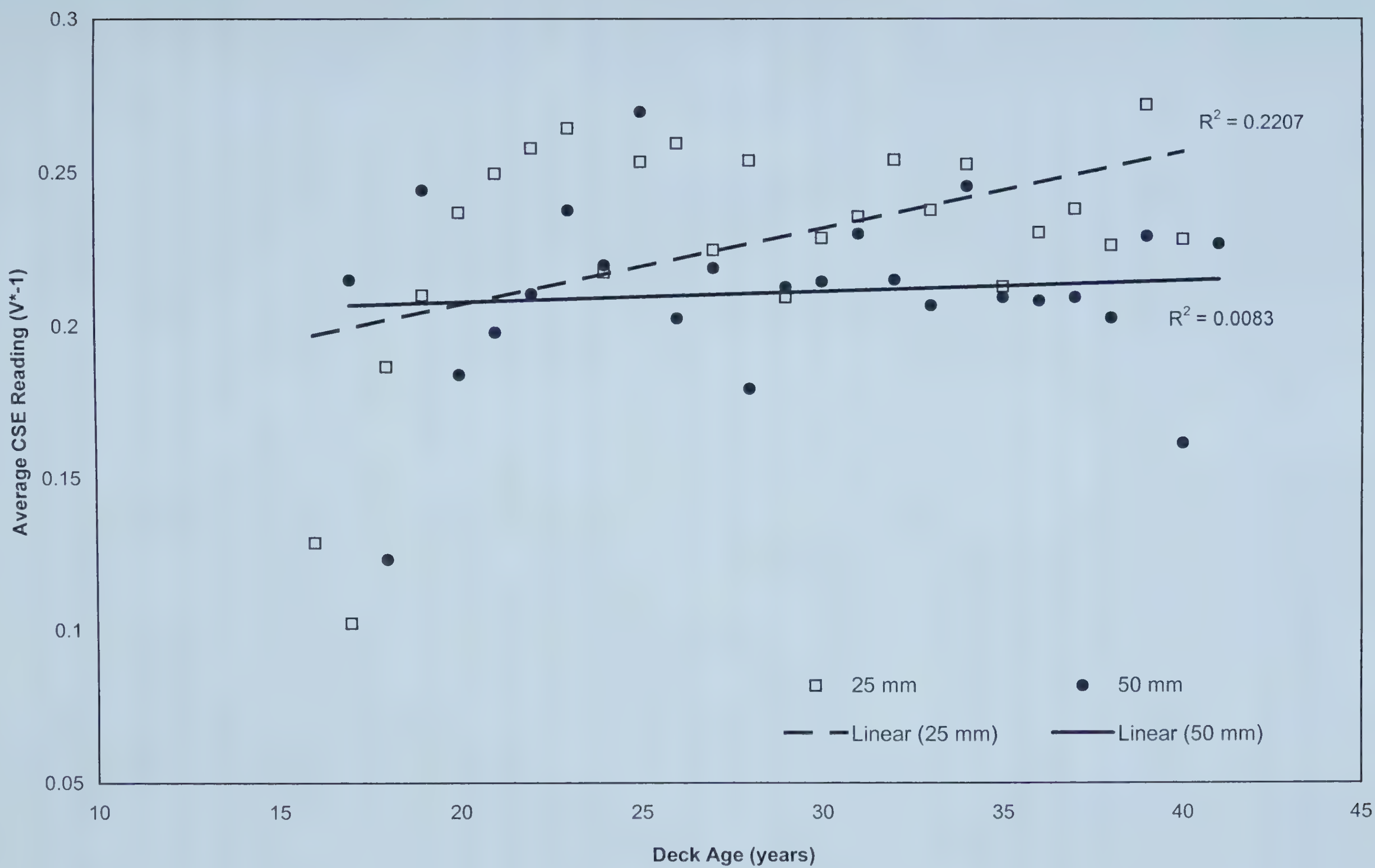

Figure 4.14. Average CSE Reading v. Deck Age for 2 Cover Depths

4.6.1 Reinforcing Ratio

The reinforcing ratio is a commonly used concept in strength design of reinforced concrete. In terms of a concrete bridge deck, the reinforcing ratio indicates the percentage of the deck cross-section occupied by steel. It does not describe the bar size or layout.

The reinforcing ratios in the longitudinal and transverse directions are considered separately. In both instances, standard deck designs cause very little variation in the reinforcing ratio. Figure 4.15 and Figure 4.16 show scatter plots of all CSE test results plotted against longitudinal and transverse reinforcing ratios respectively. The effect of standard designs is especially evident in the longitudinal reinforcing ratio where the vast majority of reinforcing ratios lie between 0.05 % and 0.2 %. Even transverse reinforcing ratios, which are generally dictated by girder spacing, lie between 0.3 % and 1.0 %. The lack of variation within the population makes assessing the affects of reinforcing ratio on deck deterioration difficult.

These difficulties become apparent in plots of grouped average data shown in Figure 4.17 and Figure 4.18. Both plots appear to show relatively strong trends, but a closer look reveals that the trends within the ranges containing the majority of data points are opposite to the overall trends. The overall trend for longitudinal reinforcing ratio, as shown in Figure 4.17, is negative. For reinforcing ratios between 0.0 % and 0.2 %, the range over which 81 % of all decks in the sample lie, the trend is strongly positive. Similarly, the trend in Figure 4.18 for the range of 0.4 % to 0.8 % is opposite from the overall trend of the plot. The discrepancy is due to the difference in sample size between groups of data lying within these ranges, and groups that lie outside of them. The small amount of data available for reinforcing ratios outside of the most common ranges makes it difficult to put any faith in their accuracy. The small size of the ranges for which a significant amount of data is available makes it difficult to see whether a significant change in the reinforcing ratio causes a significant change in the corrosion levels of the deck.

Regression analyses of the data in Figure 4.17 and Figure 4.18 also demonstrate the insignificance of the relationship between reinforcing ratio and deck corrosion. In both cases the trends created from the entire data set are flatter than those created from the average grouped data. Although the observed trends are significant at the 95 % confidence level, their flat slopes indicate that there is little if any dependence between the two variables. The signs on the upper and lower bounds of the slope coefficient are also opposite, casting doubt over the observed trends. A spreadsheet printout of the regression analysis can be found in Appendix A.

Since it is generally associated with strength and not durability, it would be fair to assume that reinforcing ratio would not affect deck deterioration in any significant way. The evidence from this study is inconclusive.

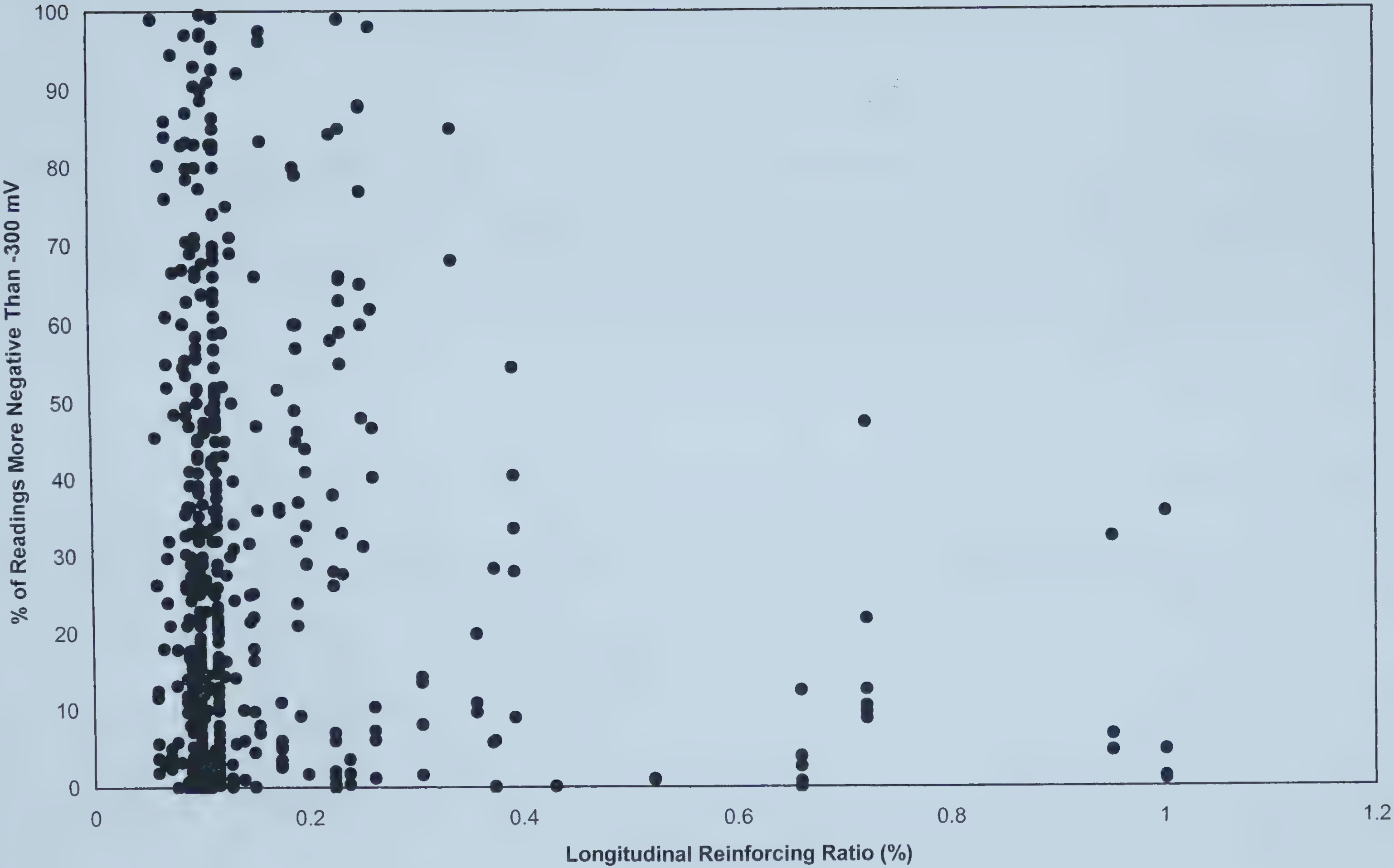

Figure 4.15. Scatter Plot of % CSE Readings More Negative Than -300 mV v. Longitudinal Reinforcing Ratio for Decks 20 - 35 Years Old

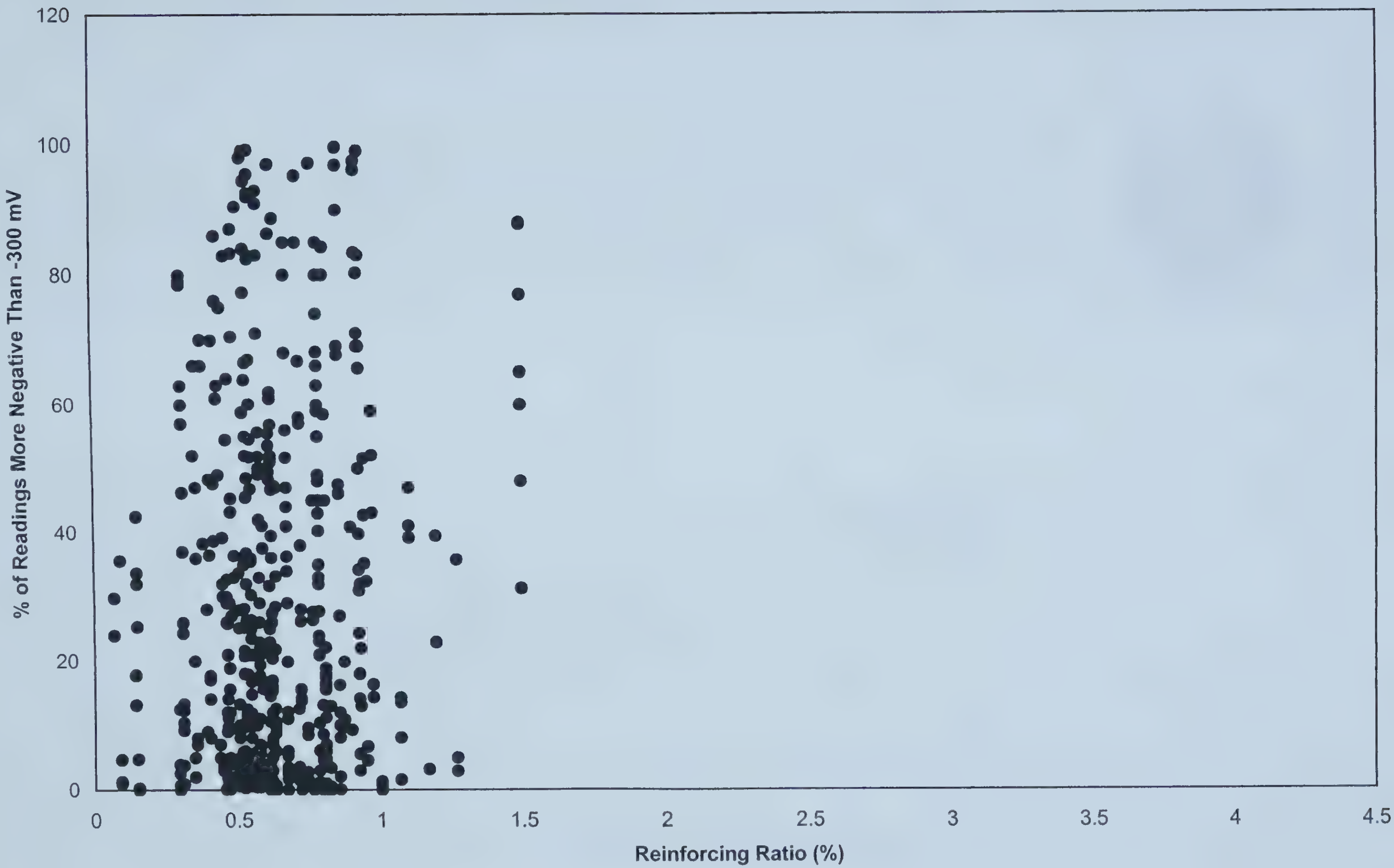

Figure 4.16. Scatter Plot of % CSE Readings More Negative Than -300 mV v. Transverse Reinforcing Ratio for Decks 20 - 35 Years Old

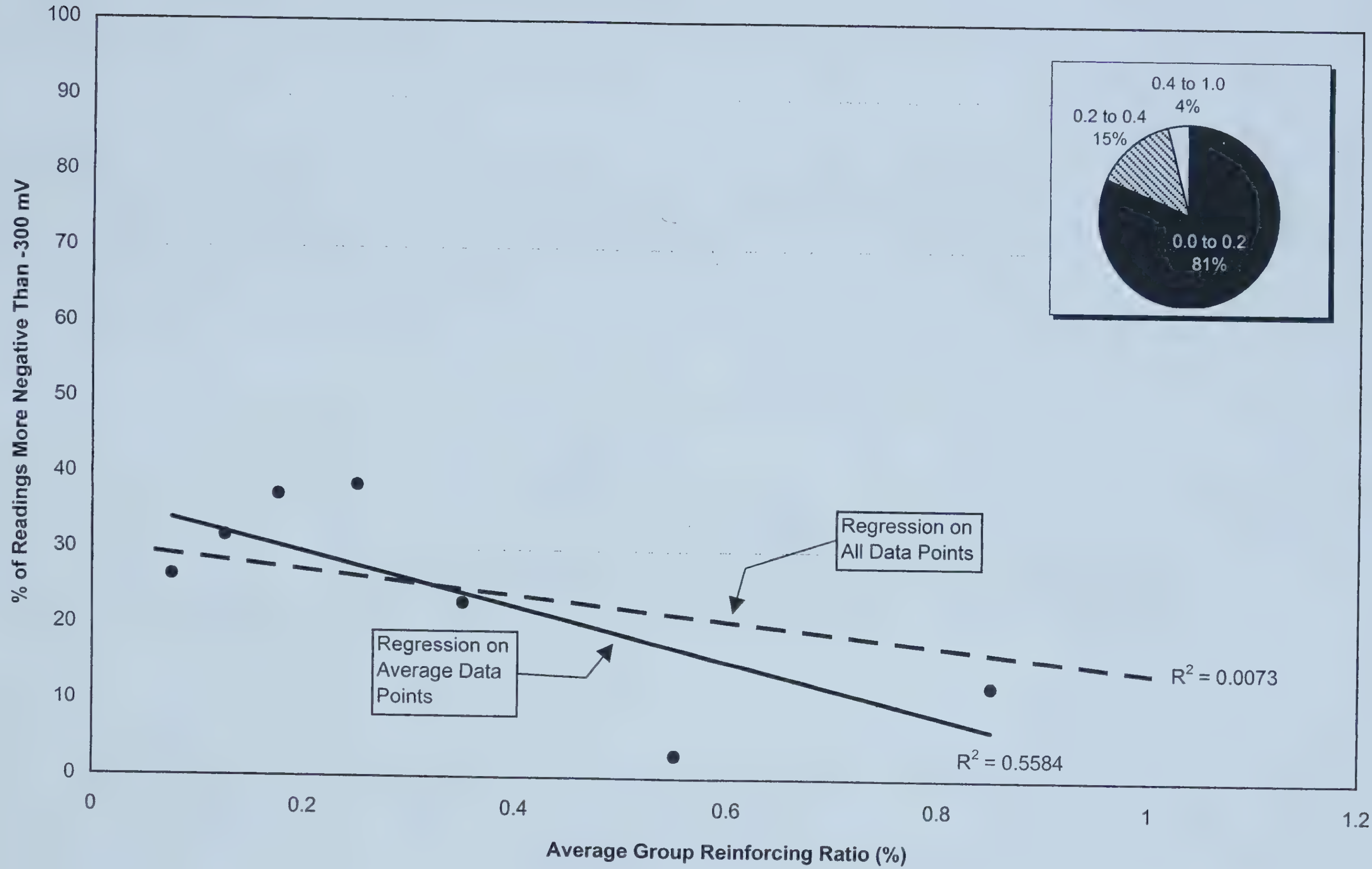

Figure 4.17. Average % CSE Readings More Negative Than -300 mV v. Grouped Longitudinal Reinforcing Ratios For Bridges 20 - 35 Years Old

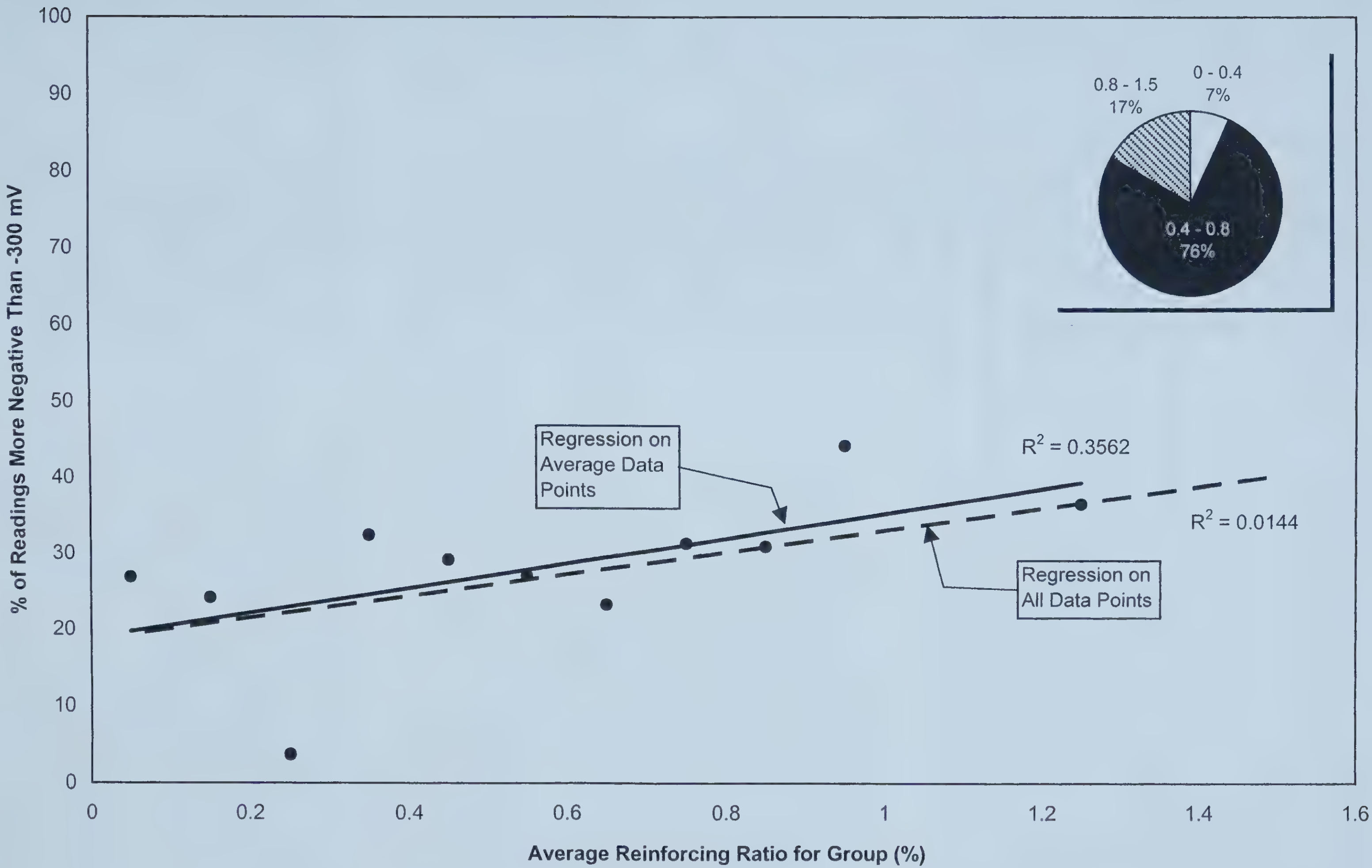

Figure 4.18. Average % CSE More Negative Than -300 mV v. Grouped Transverse Reinforcing Ratio Data for Bridges 20 - 35 Years Old

Because most decks have essentially the same reinforcing ratio, it is likely that the configuration of the reinforcing steel will prove to be far more influential than simply the amount of steel in the deck.

4.6.2 Bar Size

Investigating the effect of bar size on deck deterioration is difficult as the vast majority of decks in Alberta use similar bar configurations. 10M bars in the longitudinal direction and 15M bars in the transverse direction are typical. This creates a situation where one bar size is vastly over-represented, while the average CSE reading for all other bar sizes is considerably less accurate because of the small samples from which they are derived. In spit of this, CSE data was plotted against bar size to determine whether any influence exists. The pie charts in the corner of Figure 4.19 and Figure 4.20 indicate the relative number of CSE readings from which the average value was calculated for each bar size.

Longitudinal and transverse bars are treated separately in this study. Figure 4.19 shows the percentage of CSE readings more negative than -300 mV plotted against longitudinal bar size. The plot shows a sharp decline in average CSE readings with an increase in bar size. Since reinforcing ratios of longitudinal steel are consistently around 0.1% (see Figure 4.11), increased bar size would result in fewer bars with larger diameters. Fewer bars with larger diameters leads to a smaller total surface area of steel susceptible to corrosion. This reduced surface area could be the reason for the reduction in average CSE readings. The apparent trend in CSE readings could also be the result of random scatter. The number of individual test results that make up the average reading displayed on the graph is very small for bar sizes other than 10M. The small sample size increases the uncertainty in the average, and can cause the appearance of a trend when no trend exists. If the trend visible in Figure 4.19 were legitimate, we would expect to see the same trend in plots of transverse bar sizes, since the size and spacing of transverse bars should have a similar effect on longitudinal cracking.

Figure 4.20 shows the percentage of CSE readings more negative than -300 mV plotted against transverse bar size. As with longitudinal bars, more than three quarters of all bridge decks in the sample were constructed with the same bar size. No obvious trend is apparent in the data for transverse bars. Large transverse bars may be acting as crack initiators, negating the trends of Figure 4.19. If only the last three data points are considered, there is virtually no relation between the two variables. Figure 4.20 suggests that transverse bar size has little effect on deterioration.

Since the strong trend visible in Figure 4.19 was not duplicated in Figure 4.20, the hypothesis that the increased surface area of smaller bars is responsible for increased levels of corrosion is not supported. Although no conclusions regarding the effects of bar size on CSE readings can be

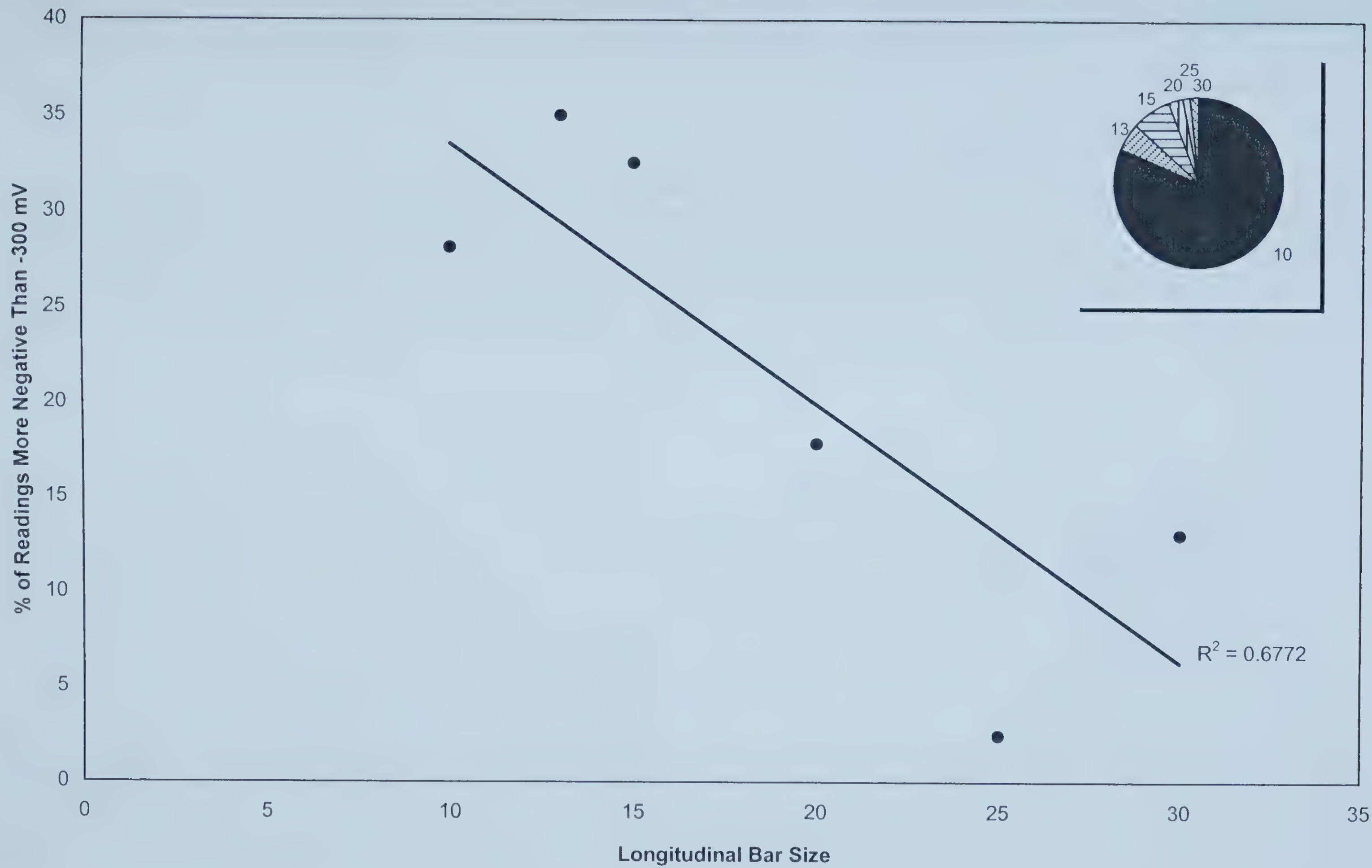

Figure 4.19. Average % CSE Readings More Negative Than -300 mV v. Long. Bar Size for Non-Rehabilitated Decks 20 - 35 Years Old

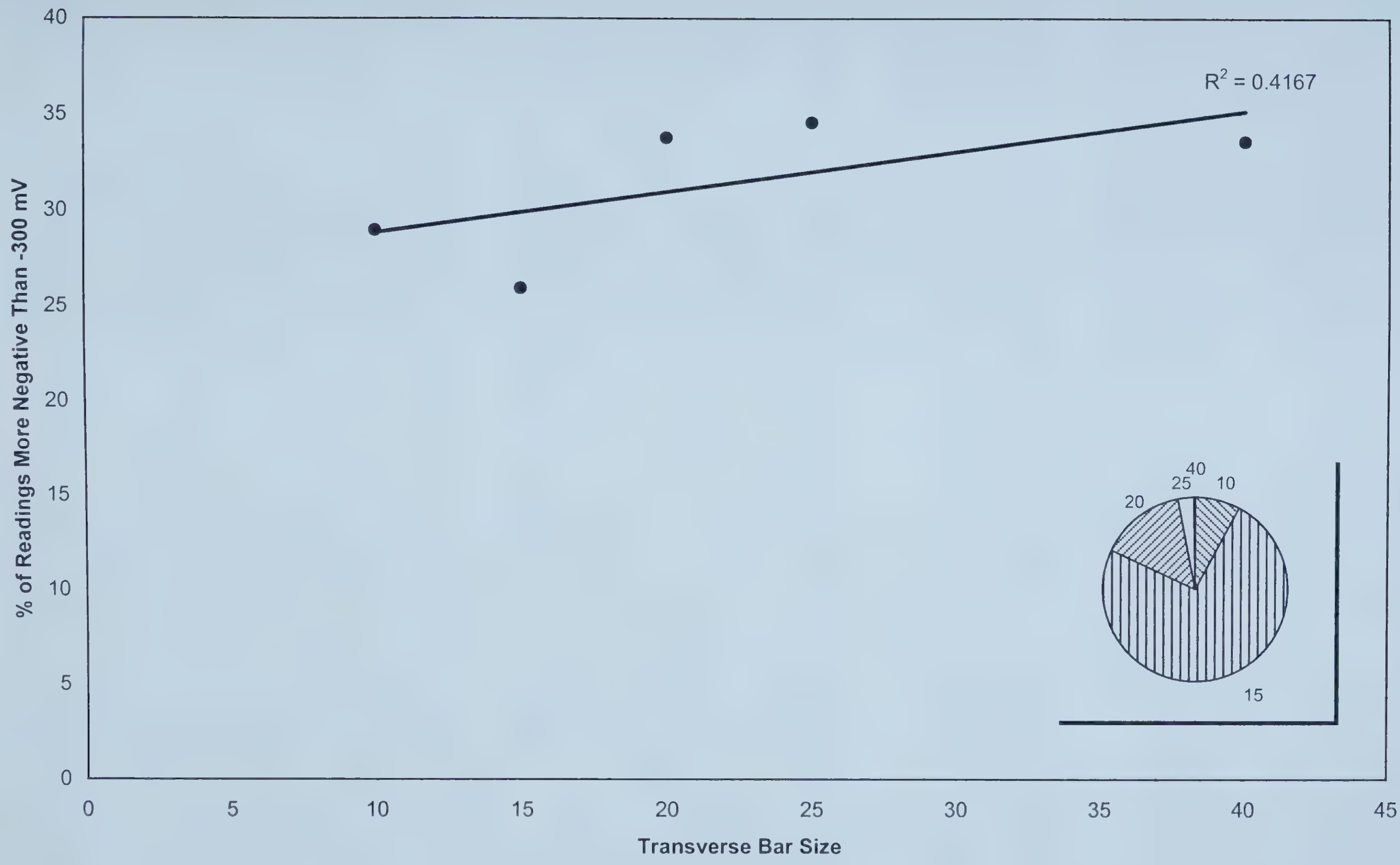

Figure 4.20. Average % CSE Readings More Negative Than -300 mV v. Transverse Bar Size for Non-Rehabilitated Decks 20 - 35 Years Old

made from the available data, it is more likely that the trend in Figure 4.19 is not legitimate, and is due to random chance. Any negative trend in Figure 4.20 would have given some credibility to the apparent relationship in Figure 4.19. Instead, the near lack of any trend in Figure 4.20 seems to suggest that the trend in Figure 4.19 is due to the error typical of small sample inferences.

4.6.3 Bar Spacing

The spacing between transverse bars and longitudinal bars was examined separately. Figure 4.21 and Figure 4.22 show the percentage of CSE readings more negative than -300 mV plotted against bar spacing for non-rehabilitated decks in the same age range.

Figure 4.21 shows the effect of transverse bar spacing on deck corrosion. The high amount of scatter in the data is the first indication that CSE readings have very little dependence on transverse bar spacing. The slope of the trend line is very flat, indicating no relation between the two variables. Based on the CSE data, there is likely no relation between corrosion and transverse bar spacing.

The longitudinal bar spacing, on the other hand, does show some relation to corrosion levels. Figure 4.22 shows that CSE readings tend to increase with longitudinal bar spacing. Although there is a high amount of scatter in the data, and a statistical analysis shows the regression model to be insignificant, lower CSE readings are more likely to be associated with lower longitudinal bar spacing. It must be noted that more than half of the decks in this test sample have a longitudinal bar spacing of 450 mm, with many of the data points for other bar spacings being calculated from very few individual readings, decreasing their accuracy. Even with this discrepancy, it is likely that longitudinal bar spacing does have an effect on bridge deck corrosion. A spreadsheet printout of the regression analysis can be found in Appendix A.

The fact that longitudinal bar spacing appears to play a role in corrosion levels when transverse spacing does not is likely an indication of one of the mechanisms of premature deck cracking. Because bridge decks span predominantly in the transverse direction, the role of longitudinal bars is predominantly crack control. Longitudinal bars bridge transverse cracks. The closer the bars are to one another, the sooner they will be able to intercept transverse cracks and stop them from propagating. Transverse cracking is the main form of premature deck cracking responsible for early corrosion of the top mat of reinforcing steel. Closely spaced longitudinal bars help control transverse cracking and reduce premature corrosion.

4.6.4 Size of Steel Footprint

The footprint size of the steel is the two-dimensional area that the top mat of reinforcing steel occupies when observed in plan. For this project the footprint was calculated by multiplying the

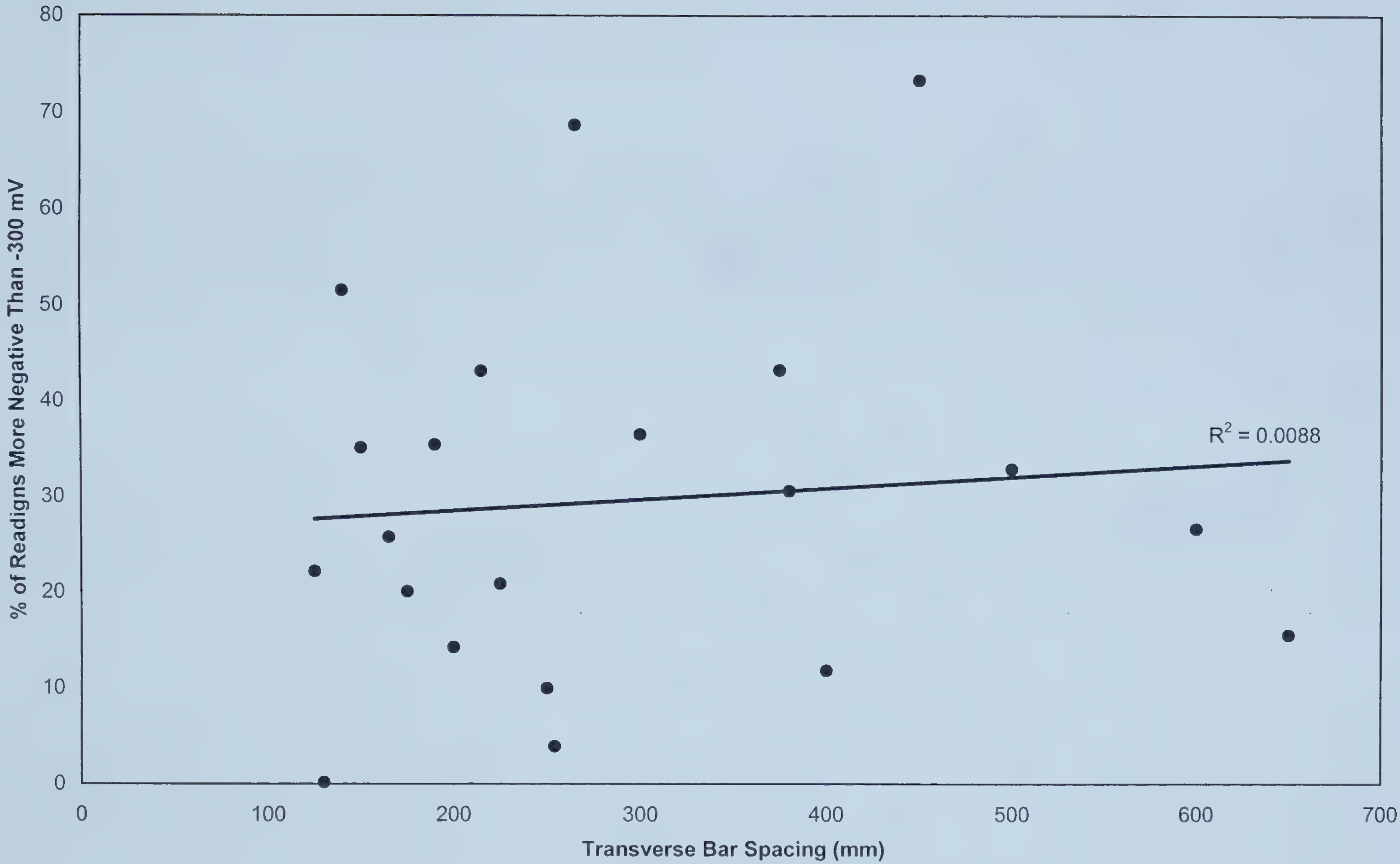

Figure 4.21. Average % CSE Readings More Negative Than -300 mV v. Trans. Bar Spacing for Non-Rehab'd Decks 15 - 30 Years Old

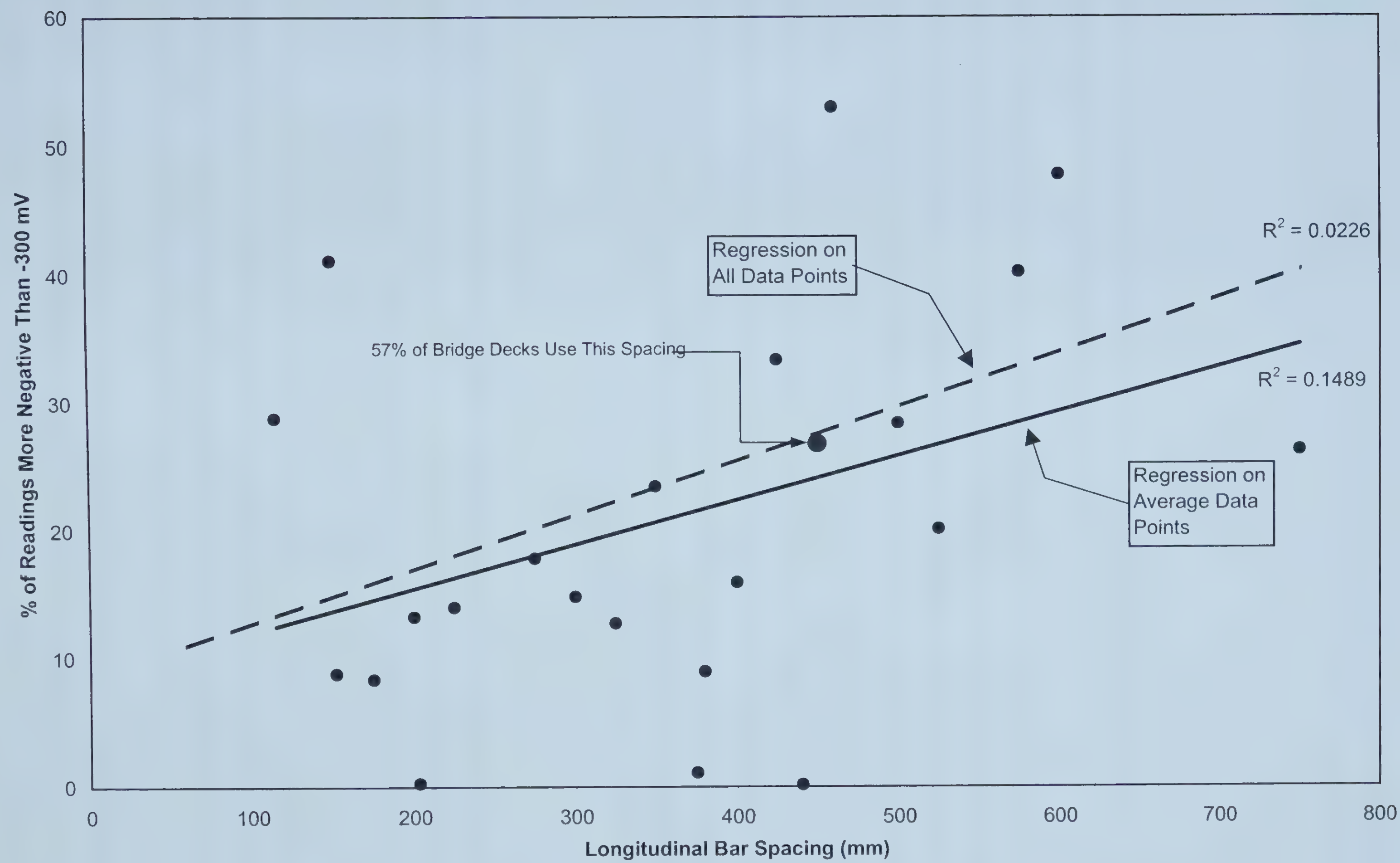

Figure 4.22. Average % CSE Readings More Negative Than -300 mV v. Long. Bar Spacing for Non-Rehab'd Bridges 15 - 30 Years Old

bar size by the bar length and then multiplying again by the total number of bars. The plan area of steel was then non-dimensionalized by dividing by the total deck area. For a deck area of one square metre, the footprint equation becomes

$$\frac{D_t}{S_t} + \frac{D_l}{S_l}$$

where D and S are the bar diameter and bar spacing respectively, and the subscripts t and l indicate bars in the transverse and longitudinal directions.

Trends in historical CSE data show very little dependence on the size of the steel footprint. In Figure 4.23 and Figure 4.24, two populations of CSE readings based on the relative size of the steel footprint are compared. The behaviour of the two populations over time is very similar. The scatter in both plots is very high, which eliminates any visual trends. Trend lines in Figure 4.24 show that, on average, both populations have identical peak values and share a similar response to maintenance and rehabilitation. In Figure 4.23, the lack of average CSE data for young bridge decks with less than 10% plan area of steel makes any interpretation difficult. For periods over which data for both populations is available, the points seem to plot along similar paths. Although the scatter plot in Figure 4.25 shows that the amount of the deck footprint occupied by steel varies over quite a large range of values, very little variation in the average CSE readings over time, as indicated by the trend line, can be noticed. These results show that CSE readings are not affected by the plan area of steel exposed to the testing probe.

4.6.5 Surface Area of Reinforcing Steel

The surface area of reinforcing steel is the total outside area of the bars exposed to corrosive elements. It is calculated by multiplying the circumference of all the bars by their respective lengths and summing them. The concept is similar to the footprint size discussed in § 4.6.4, except the surface area gives a more accurate representation of the amount of steel available for corrosion. If a relation between the total surface area of the steel and corrosion exists, it is expected that corrosion levels would increase with an increase in surface area. This hypothetical increase is a result of more steel being exposed to elements necessary for corrosion. The plots in Figure 4.26 through Figure 4.28 show the percent of CSE readings more negative than -300 mV versus the total surface area of steel per square metre of bridge deck.

Similar to the results of the investigation of the size of the steel footprint, no relation between the total surface area of steel and corrosion levels in the bridge deck could be found. Figure 4.26 and Figure 4.27 are scatter plots of all bridges, with rehabilitated decks removed from Figure 4.27. Figure 4.28 shows the average of groups of CSE readings in ranges of 100 000 mm^2.

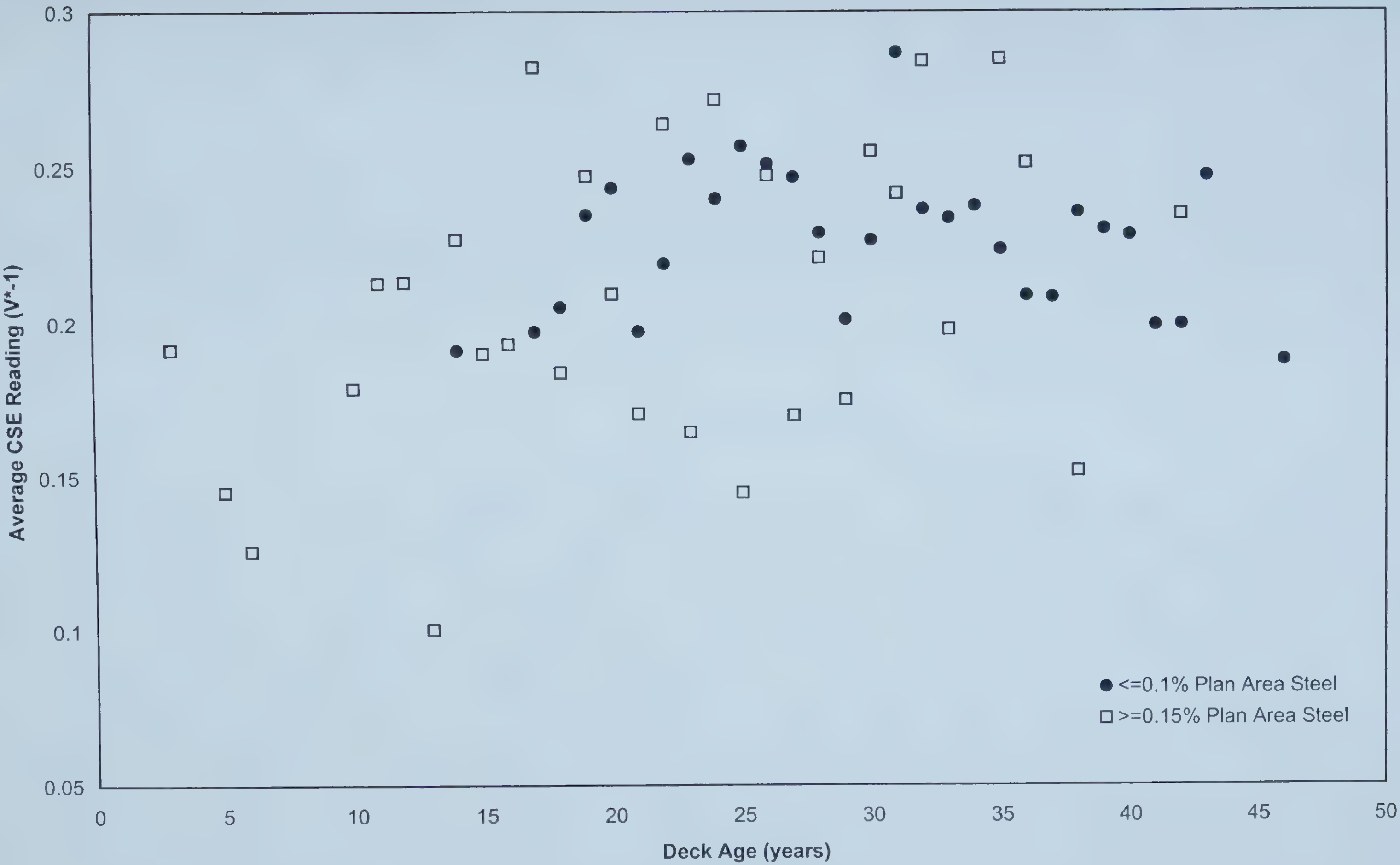

Figure 4.23. Average CSE Reading v. Deck Age For Various Amounts of Deck Steel

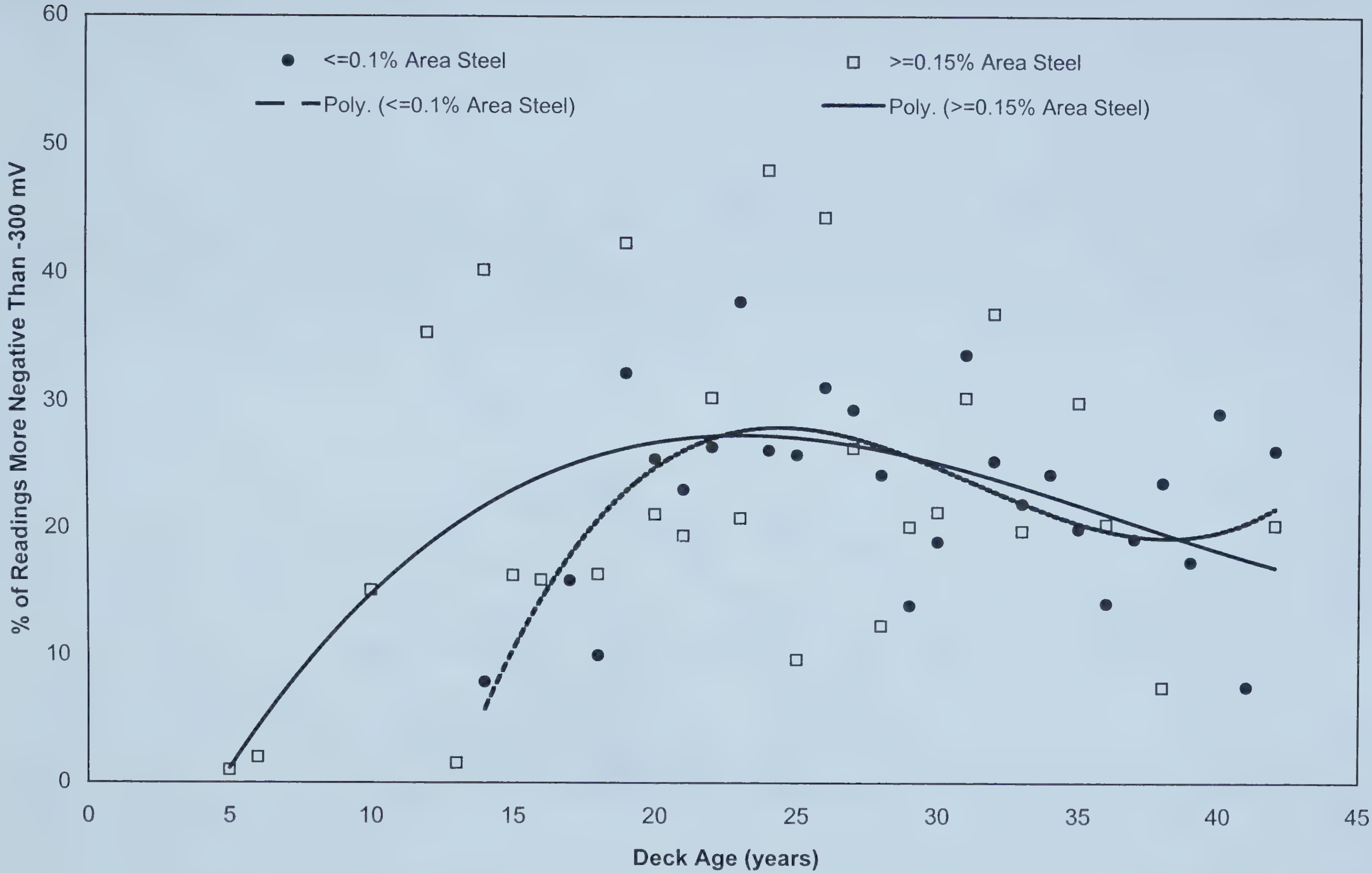

Figure 4.24. Percent of CSE Readings More Negative Than -300 mV v. Deck Age for Various Amounts of Deck Steel

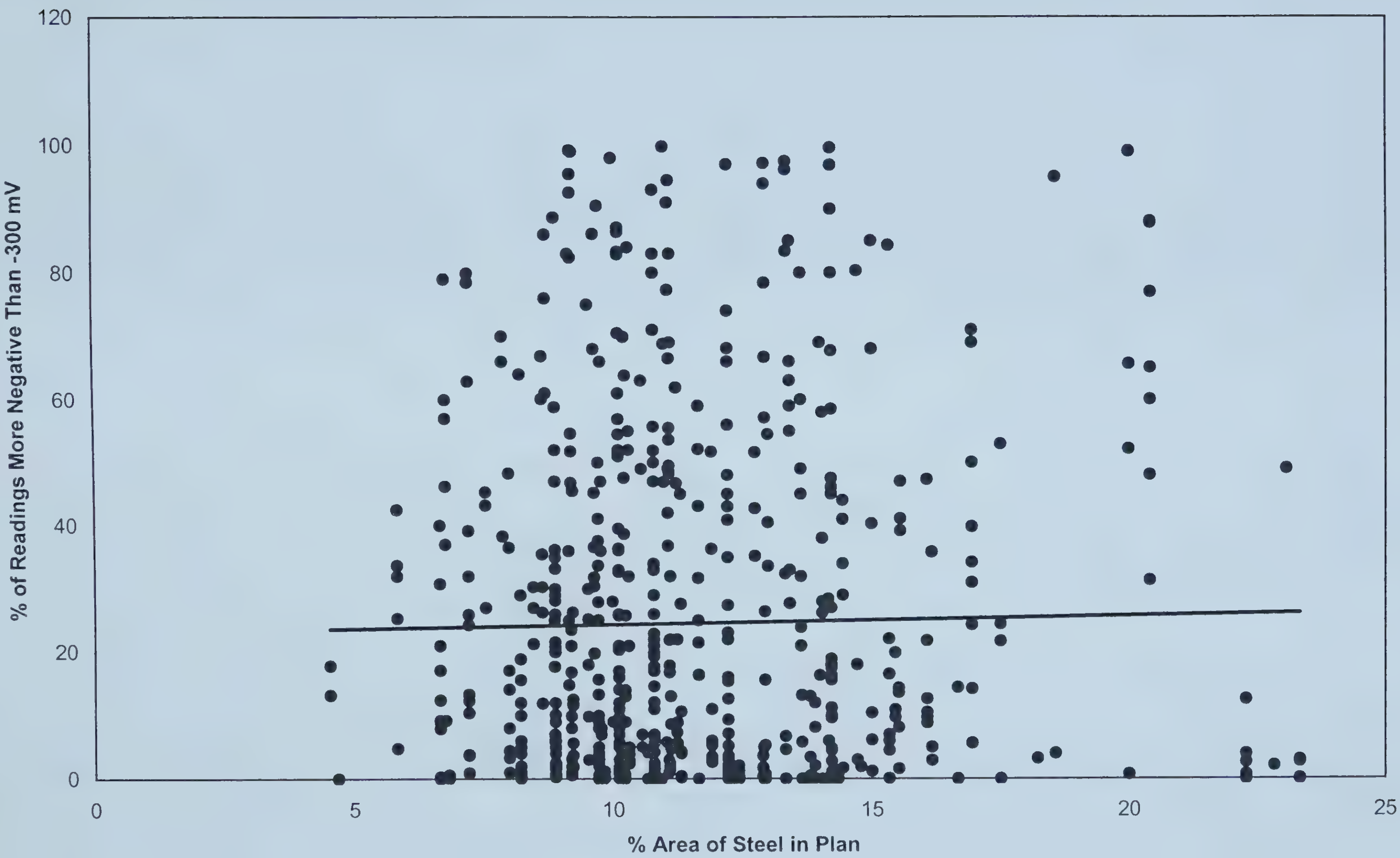

Figure 4.25. % CSE Readings More Negative Than -300 mV v. % Area of Steel in Plan for Bridge Decks 20 - 35 Years Old

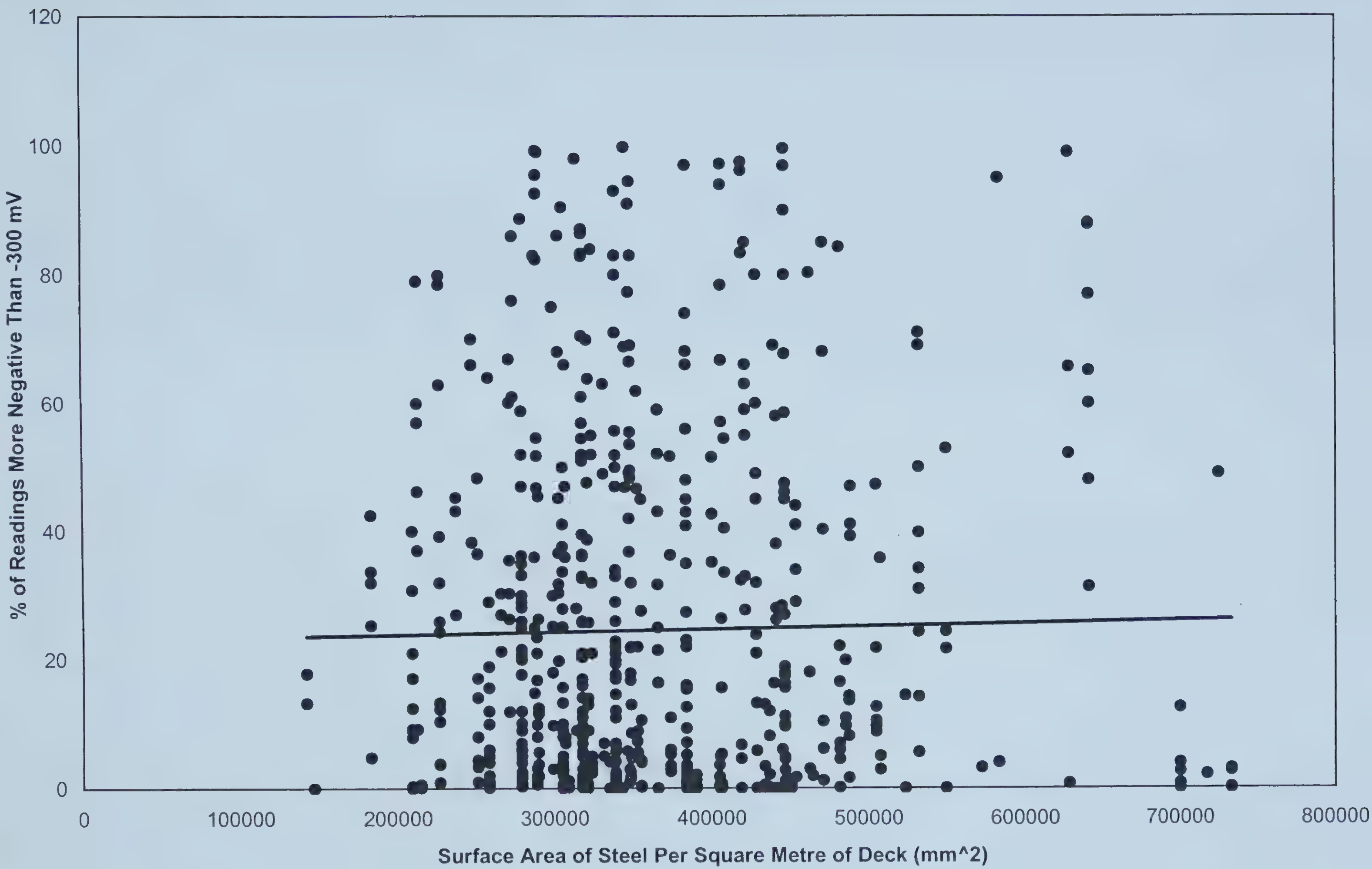

Figure 4.26. % CSE Readings More Negative Than -300 mV v. Surface Area of Reinforcing Steel for All Decks 20 - 35 Years Old

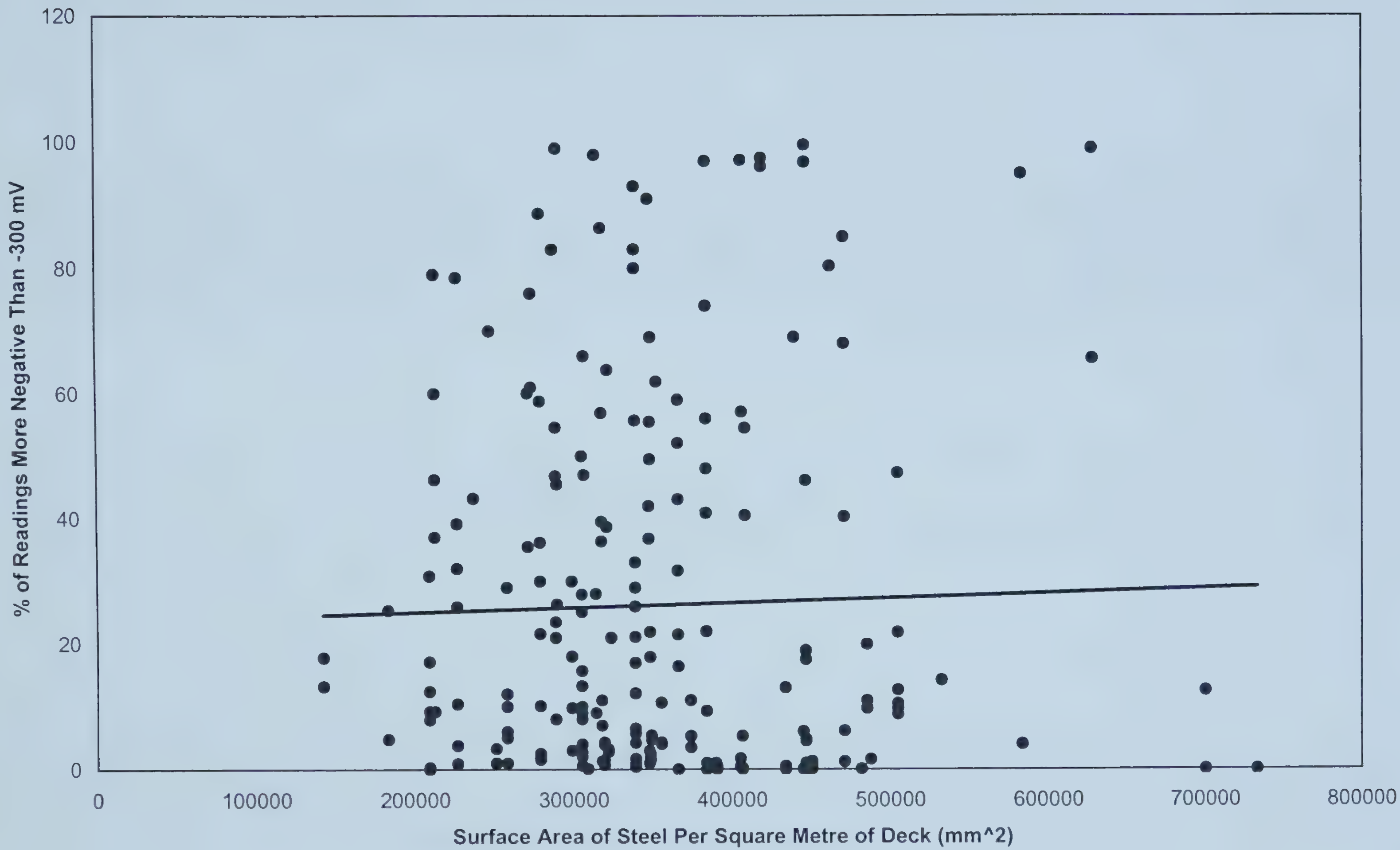

Figure 4.27. % CSE Readings More Negative Than -300 mV v. Surface Area of Reinforcing Steel for Non-Rehabilitated Decks 20 - 35 Years Old

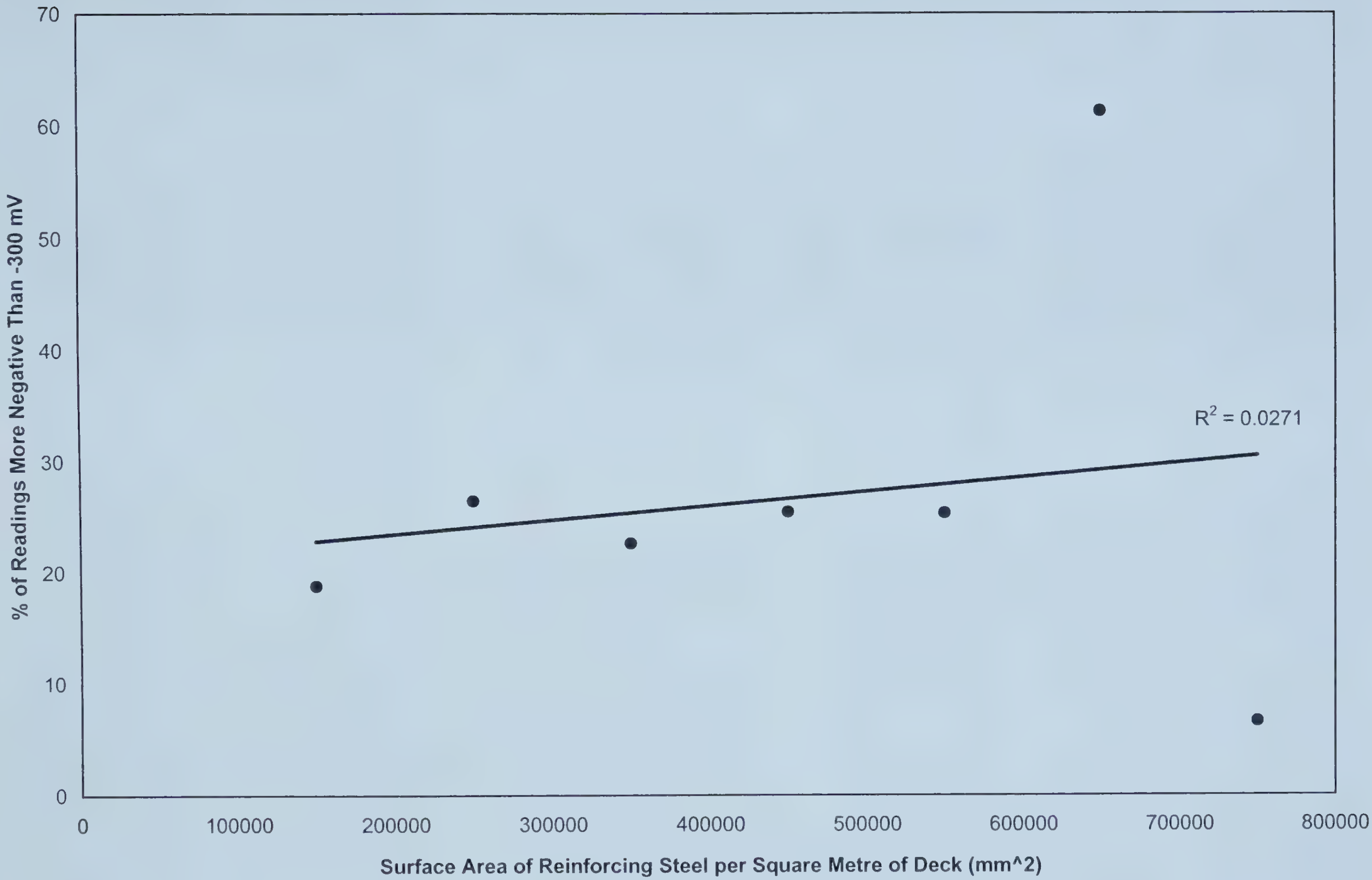

Figure 4.28. Average % CSE Readings More Negative Than -300 mV v. Ranges of Surface Area of Reinforcing Steel for All Decks Aged 20 - 35 Years Old

Nearly identical trends are shown on each plot, indicating virtually no relation between the surface area of reinforcing steel and corrosion levels within the deck. The final two points in Figure 4.28 were derived from a small number of readings, all of which were collected from three or four bridges. Due to the poor sampling, these two points are considered outliers. If these two points were removed, the trend line would be even flatter than it is.

The total lack of dependency of CSE readings on the total area of steel available to corrosion was unexpected. With more steel exposed to corrosive elements, higher rates of corrosion were expected. Two possible explanations exist to explain why this isn't so.

1. Increased surface area is generally created by using a larger number of smaller diameter bars, as opposed to fewer larger diameter bars. The smaller bars are spaced closer together, creating improved crack control and limiting the amount of corrosive elements that come in contact with the steel. The reduced availability of the elements necessary for corrosion balances out the increased area of exposed steel, and eliminates any relation between the two.

2. Only a very small percentage of bridge decks show 100 % of CSE readings in the corrosive range, indicating that, in most cases, corrosion is not occurring on all steel surfaces within the deck. In situations where only a fraction of the steel surfaces are corroding, increasing the surface area of the reinforcing bars would only serve to increase the amount of exposed steel that is not corroding. In order for there to be an increase in corrosion with an increase in steel surface area, a surplus of corrosive elements is required. This does not appear to be the case in the vast majority of situations.

The previous investigation of bar size has shown that it has little effect on corrosion levels. If the first explanation were valid, then the bar size would play a more significant role in the corrosion of the steel mat. This leaves the second explanation as to why the surface area of steel does not affect corrosion levels. From a corrosive point of view, there simply isn't a demand for increased surface area.

4.7 Skew

To evaluate the effects of skew angle on the deterioration of bridge decks, average CSE readings and percentage of CSE readings more negative than -300 mV for all bridges with skew angles greater than 30° were plotted against the age of the deck. Similar plots were made for bridges with skew angles less than 30°, and the two were compared. The results are shown in Figures 4.29 through 4.31.

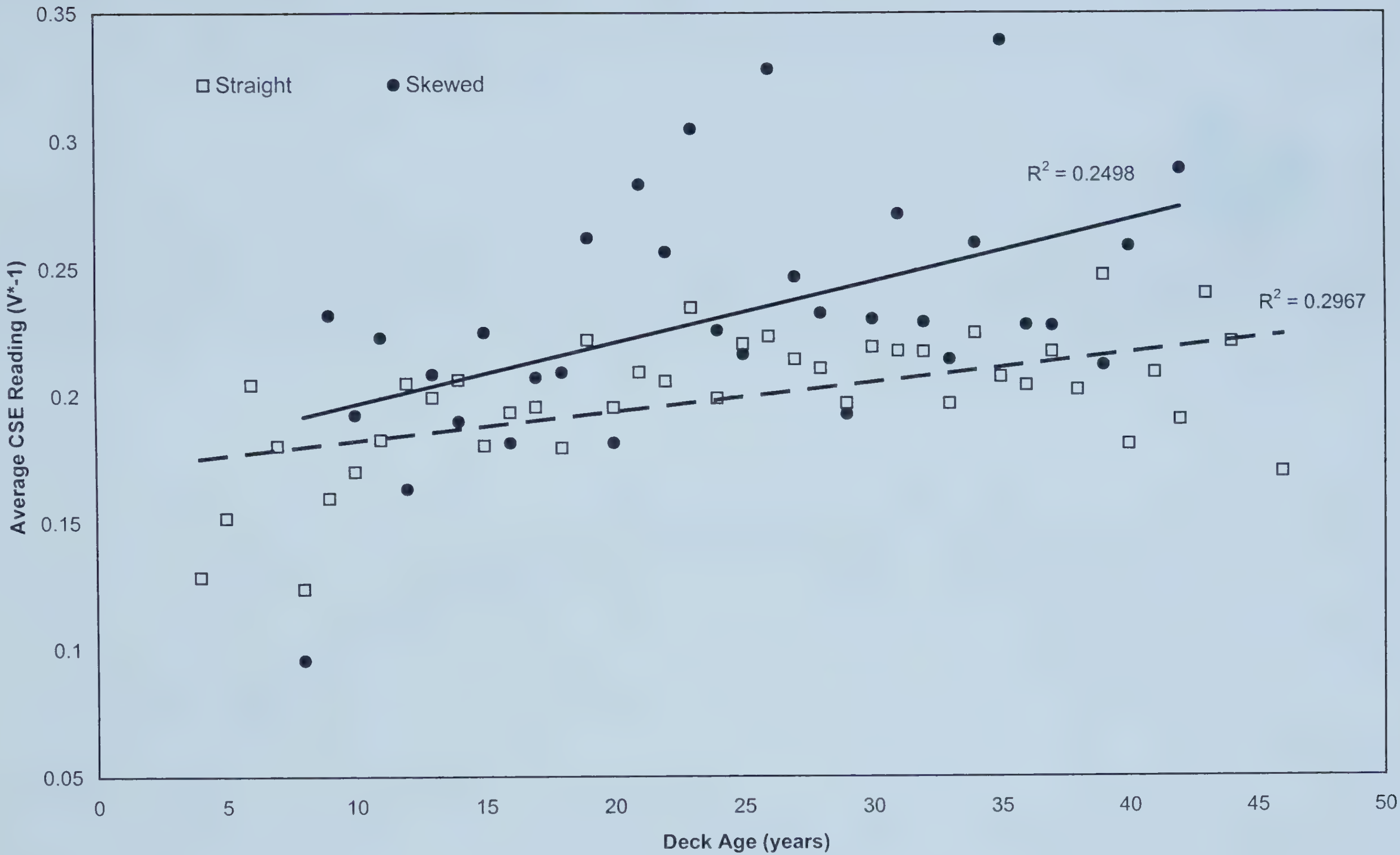

Figure 4.29. Average CSE For Straight v. Skewed Crossings

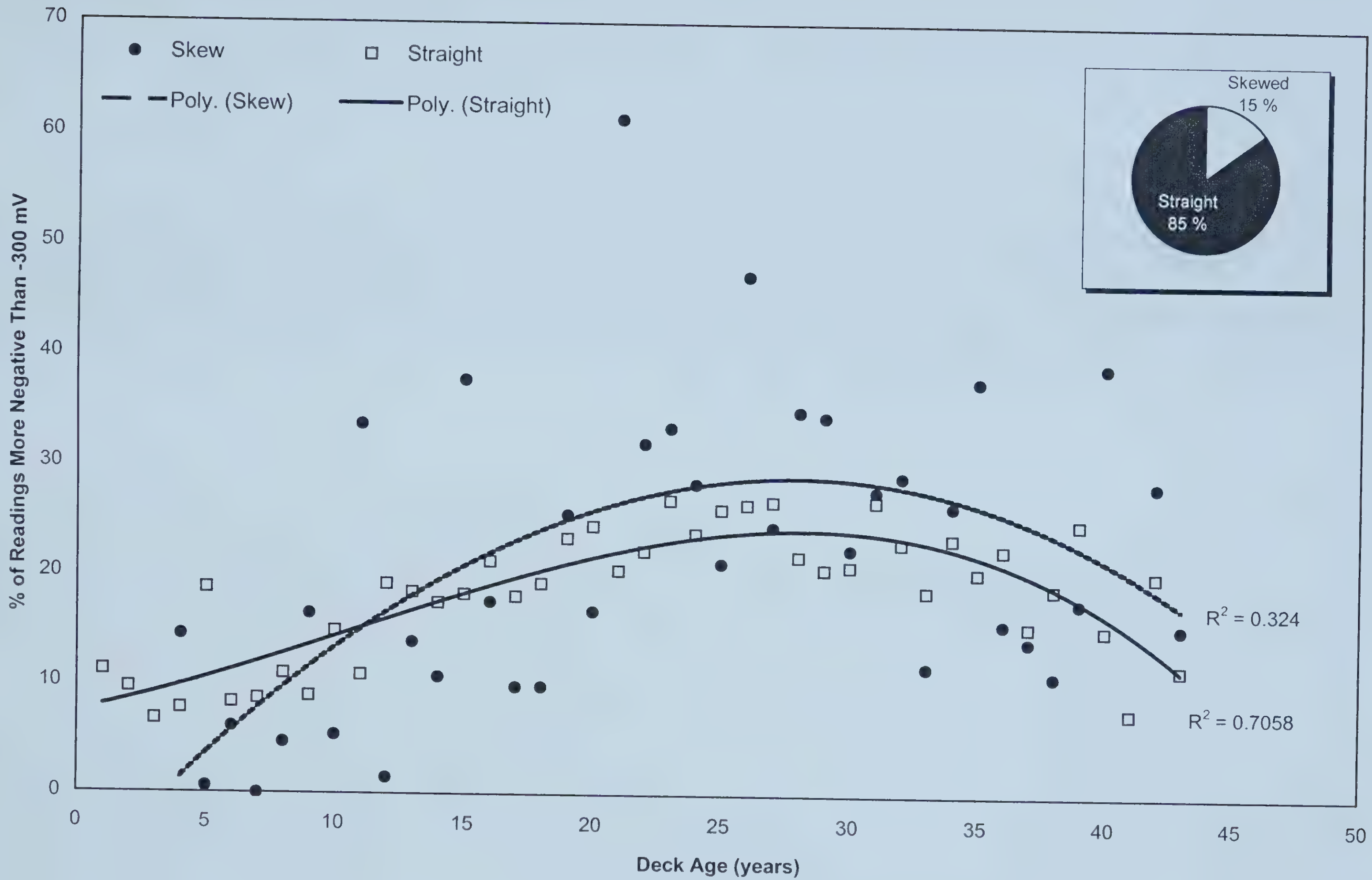

Figure 4.30. % CSE Readings More Negative Than -300 mV v. Deck Age for Skew and Straight Crossings

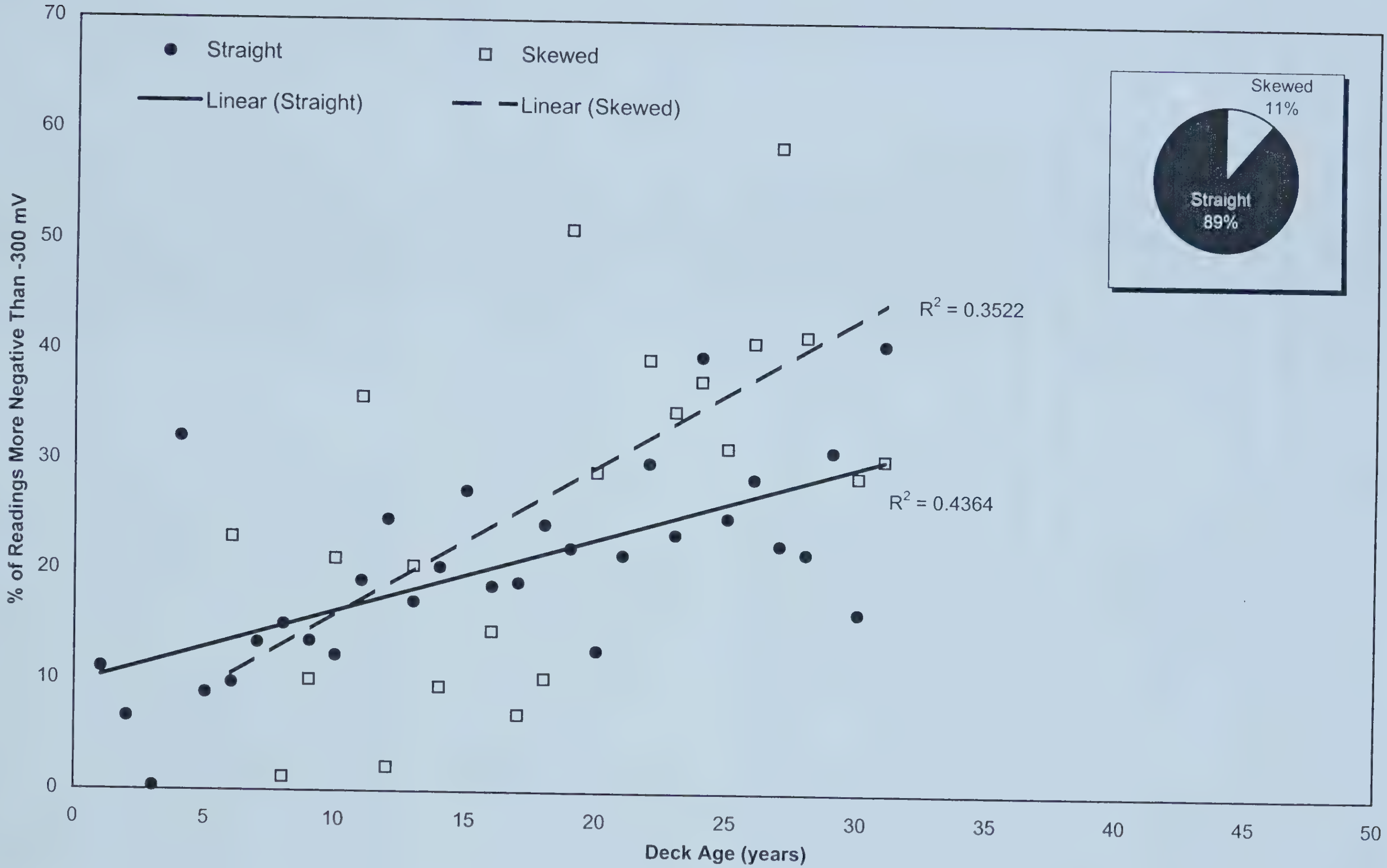

Figure 4.31. Average % CSE Readings More Negative Than -300 mV v. Deck Age for Straight and Skew Non-Rehabilitated Decks

In all of the plots, skewed bridges have, on average (as indicated by the fitted line), higher CSE readings and a higher percentage of CSE readings in the corrosive range than straight crossings. However, the plotted points for straight crossings generally fall within the range of scatter of the points for skewed crossings. The high scatter in the data for skewed bridges is due to the relatively small number of skewed bridges (16%) in the test sample compared to the number of straight crossings. Although it is difficult to make any conclusions based on these plots, it is interesting to note that in Figures 4.29 and 4.31, the majority of the data points for skewed bridges with decks older than 20 years fall well above those for straight crossings, indicating that the gap in performance increases in older decks. CSE readings on skewed bridges increase at a higher rate than those of straight crossings. This is likely due to the accelerated rate at which skewed bridges accumulate damage, and the increased difficulty in maintaining and rehabilitating skewed bridges. In Figure 4.29, the average CSE readings for skewed structures do not seem to respond to maintenance and rehabilitation, although the plot showing the percentage of CSE readings more negative than -300 mV does appear to show skewed decks responding to rehabilitation in a similar manner to straight decks. Although the makeup of the data sample makes it difficult to proclaim any firm conclusions regarding the effect of skew angle on deck deterioration, the trends do support the conclusions of previous research, indicating that skewed bridges deteriorate faster than straight crossings.

4.8 Intermediate Diaphragms

Intermediate diaphragms improve the lateral stability of bridge girders. They also promote load sharing between girders and reduce differential deflections. It is suspected that intermediate diaphragms create a stiffer deck system and reduce longitudinal cracking. A reduction in longitudinal cracking would reduce the number of direct paths to the steel leading to lower corrosion levels.

Figure 4.32, a plot of the percentage of CSE readings more negative than -300 mV versus deck age for bridges with and without intermediate diaphragms, seems to show the opposite of what would be expected. The plot shows that decks with intermediate diaphragms have higher corrosion levels than decks without intermediate diaphragms. This may be explained by the makeup of each of the populations of bridges. As shown in the pie charts of Figure 4.32 the population of bridges without diaphragms is almost exclusively made up of concrete girder bridges. The population of bridges with diaphragms contains a slight majority of steel bridges. Figure 4.32 does not indicate whether the elevated corrosion levels are due to the presence of intermediate diaphragms or a significantly higher proportion of steel bridges.

In Figure 4.33, steel girder bridges have been removed from both populations. The difference in corrosion levels between bridges with and without intermediate diaphragms becomes insignificant

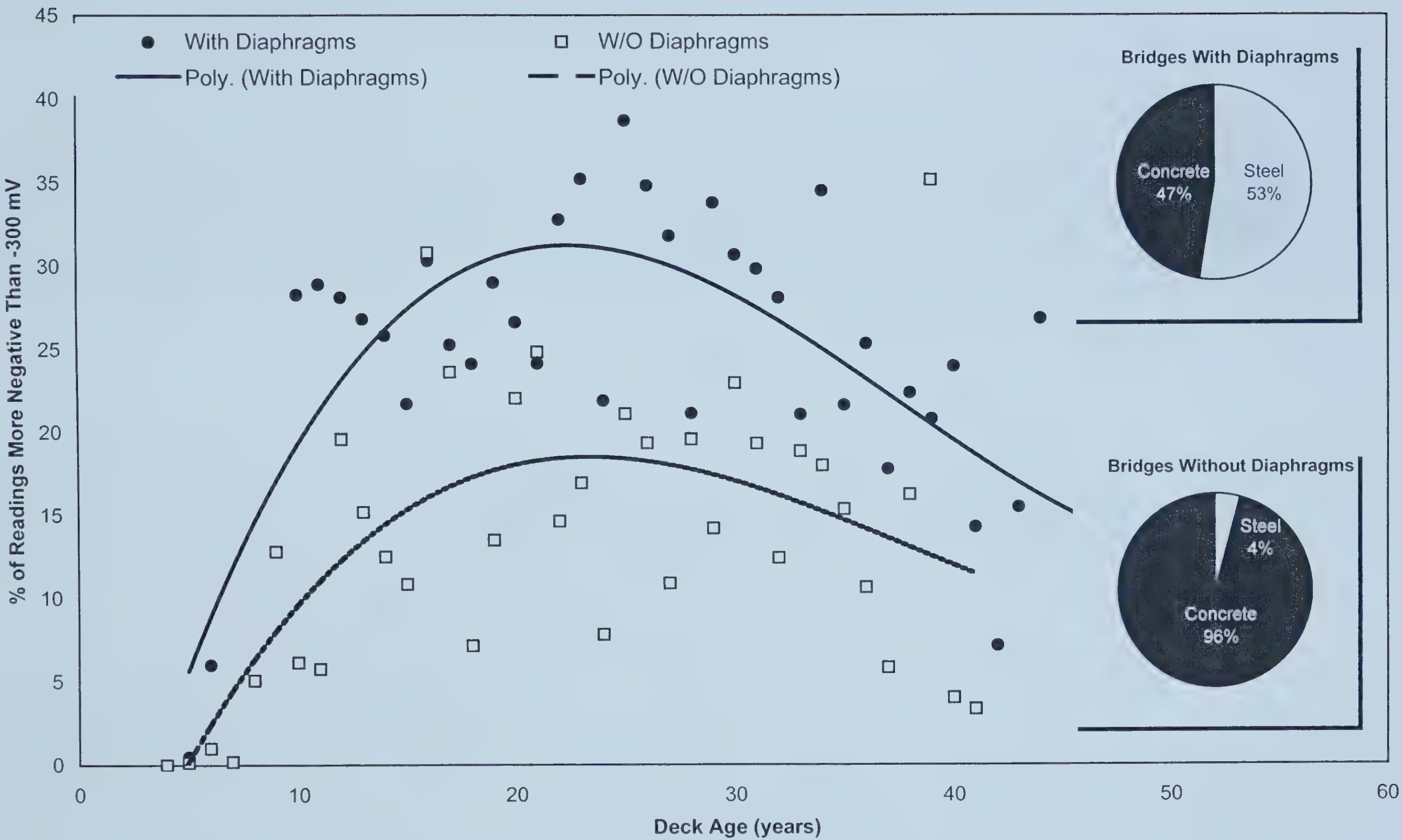

Figure 4.32. % CSE Readings More Negative Than -300 mV v. Deck Age for Bridges With and Without Intermediate Diaphragms

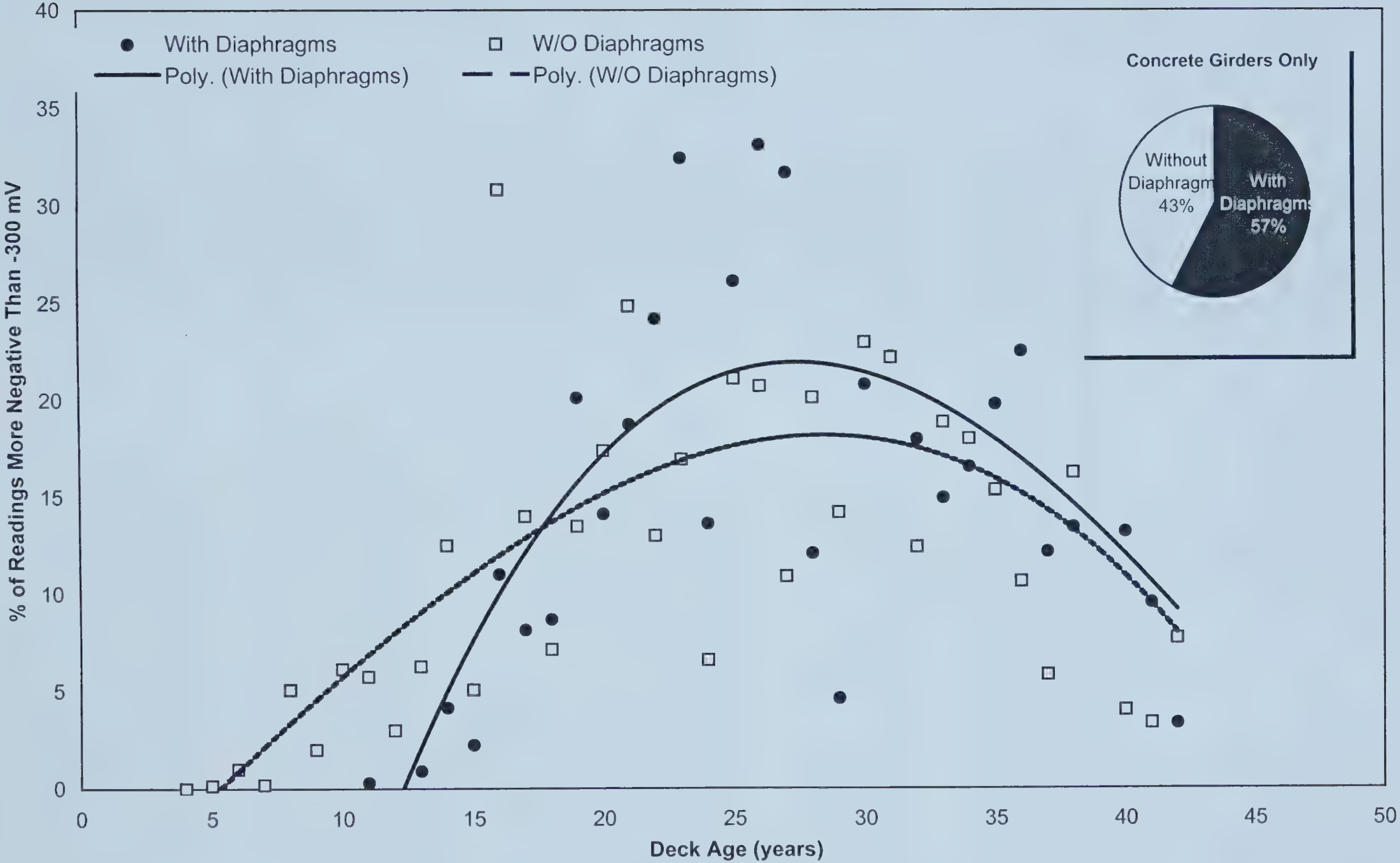

Figure 4.33. %CSE Readings More Negative Than -300 mV v. Deck Age for Bridges With and Without Intermediate Diaphragms (Concrete Girders Only)

when only concrete bridges are concerned. Considerable overlap in the scatter of the two populations suggests that there is no real difference between the two. It is impossible to check if the same would hold true for an exclusively steel population, as almost all steel bridges in the sample have intermediate diaphragms. The differences observed in Figure 4.32 were most probably due to differences between steel and concrete girder bridges, and not the presence or absence of intermediate diaphragms.

4.9 Maintenance and Rehabilitation

It is impossible to draw conclusions on the deterioration of bridge decks without examining the effects of maintenance and rehabilitation. The goal of rehabilitation is to alter the rate of deterioration of the bridge deck and reduce corrosion levels within the steel. These effects must be understood so as not to be confused with the effects of the design elements being studied.

Figure 4.34 shows typical results of rehabilitation on three bridges. Corrosion levels continue to rise for a period of five to ten years following rehabilitation and then drop off dramatically to levels of little or no active corrosion. Following the drop, corrosion levels begin to increase again as the rehabilitated elements begin to deteriorate.

In order to identify reductions in CSE readings due to rehabilitation it is necessary to know when rehabilitation is likely to occur, and how it is likely to affect average corrosion levels within the population of bridge decks. Figure 4.35 shows three different plots. The solid line shows the average percentage of CSE readings more negative than -300 mV for decks that have never been rehabilitated plotted against the age of the deck. The line with equal dashes shows the same information for bridge decks that have been rehabilitated plotted against their age since the time of original construction. The line with unequal dashes shows corrosion levels for rehabilitated decks plotted against their age since the time of the rehabilitation. Both dashed lines have nearly identical slopes and similar initial corrosion levels. These similarities suggest that the majority of bridge decks are being rehabilitated after approximately 20 – 30 years of service. If this were not the case, the two lines would have different slopes. Figure 4.36 also suggests that rehabilitation is occurring 20 to 30 years after construction. Both lines on the plot follow each other closely prior to 20 years, at which time they begin to diverge.

Rehabilitation slows the rate of deterioration of bridge decks by eliminating access to the reinforcing steel. In the absence of corrosive elements, corrosion of the reinforcing steel stops or slows dramatically. The reduction in corrosion levels of rehabilitated bridge decks cause average corrosion levels within the population to fall off as well, causing the CSE trend to become non-linear. Changes caused by rehabilitation generally occur 20 to 30 years after the bridge deck is originally cast.

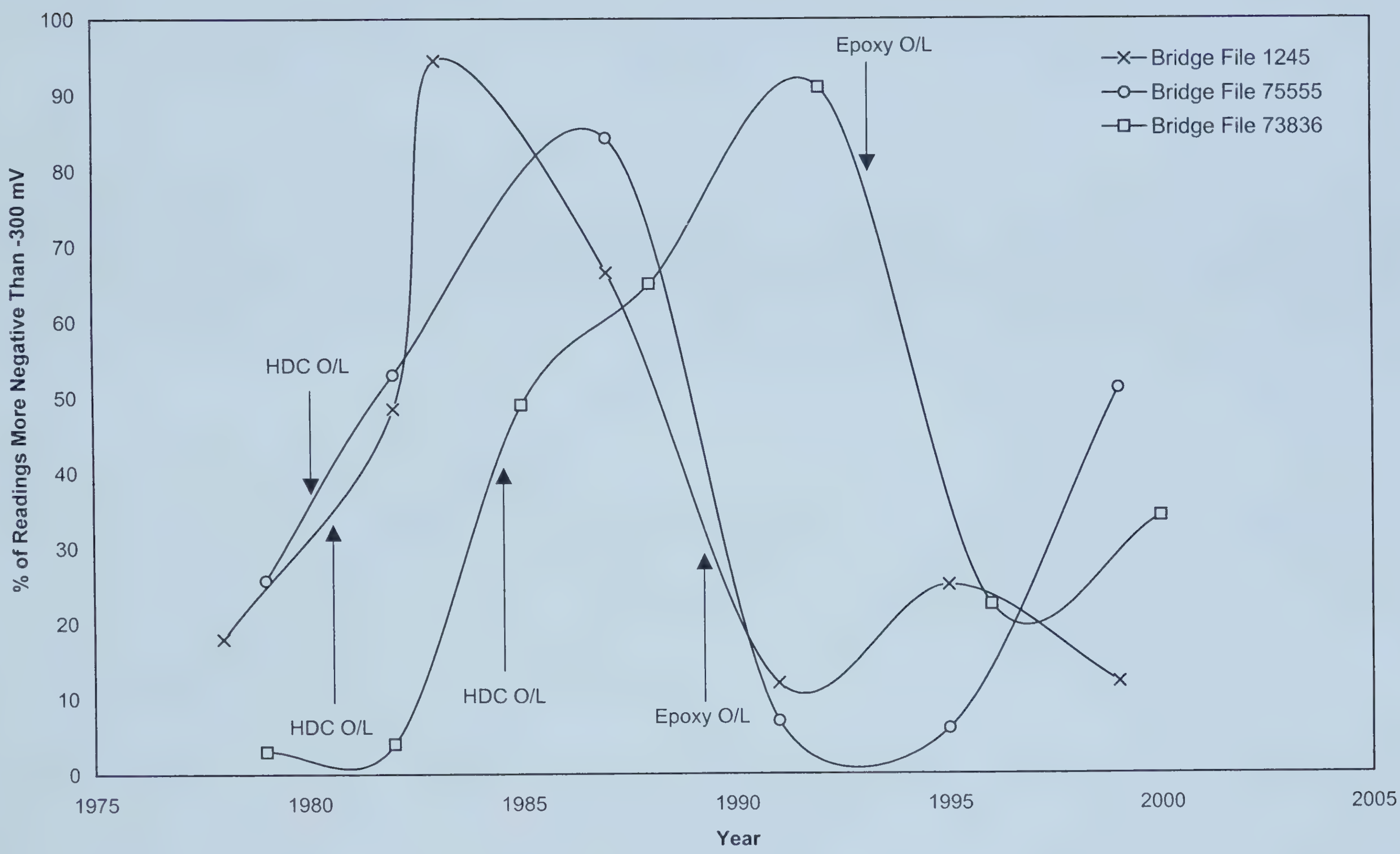

Figure 4.34. Effect of Bridge Maintenance on Corrosion of Bridge Deck Steel

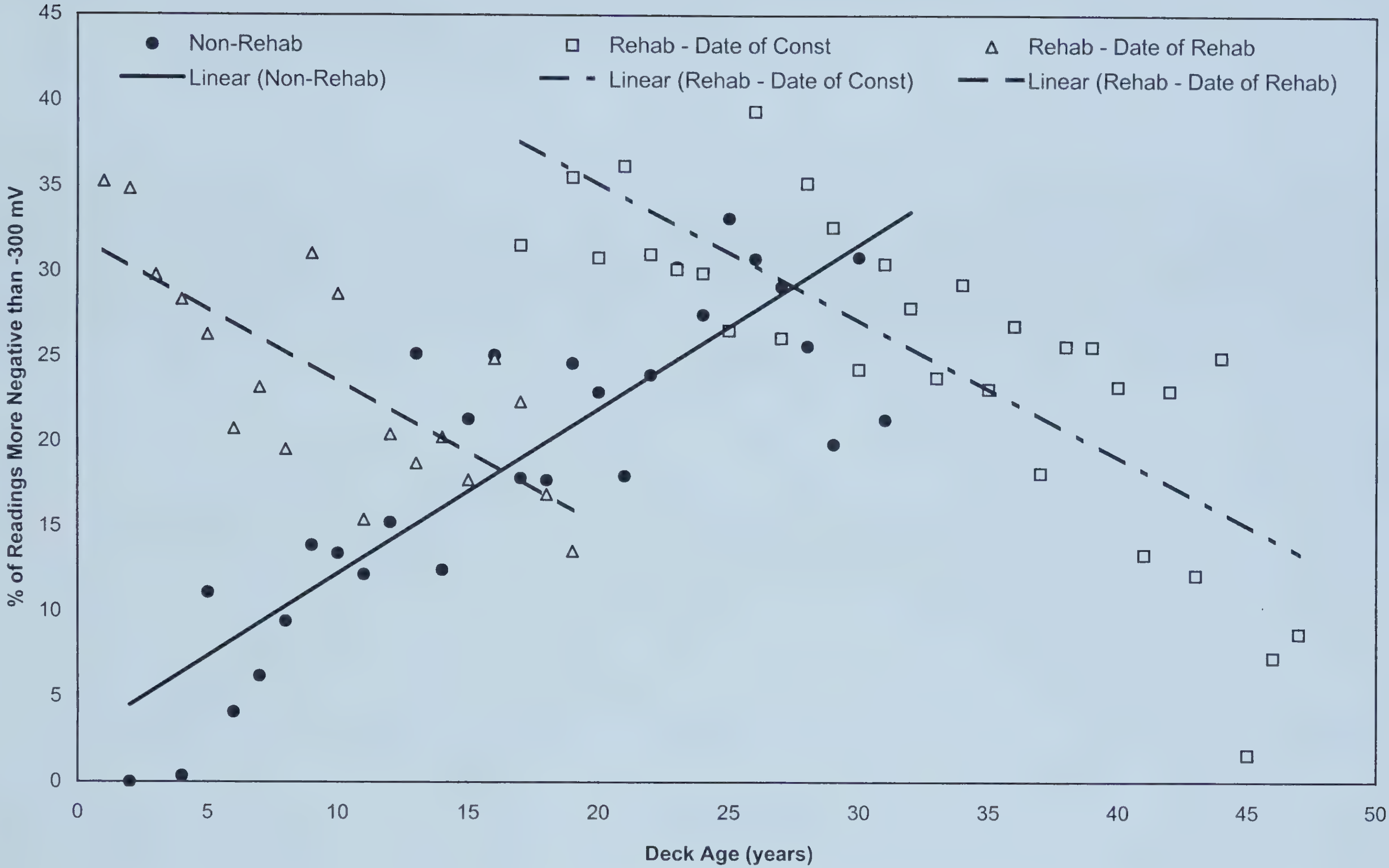

Figure 4.35. % CSE Readings More Negative Than -300 mV v. Deck Age for Original and Rehabilitated Decks

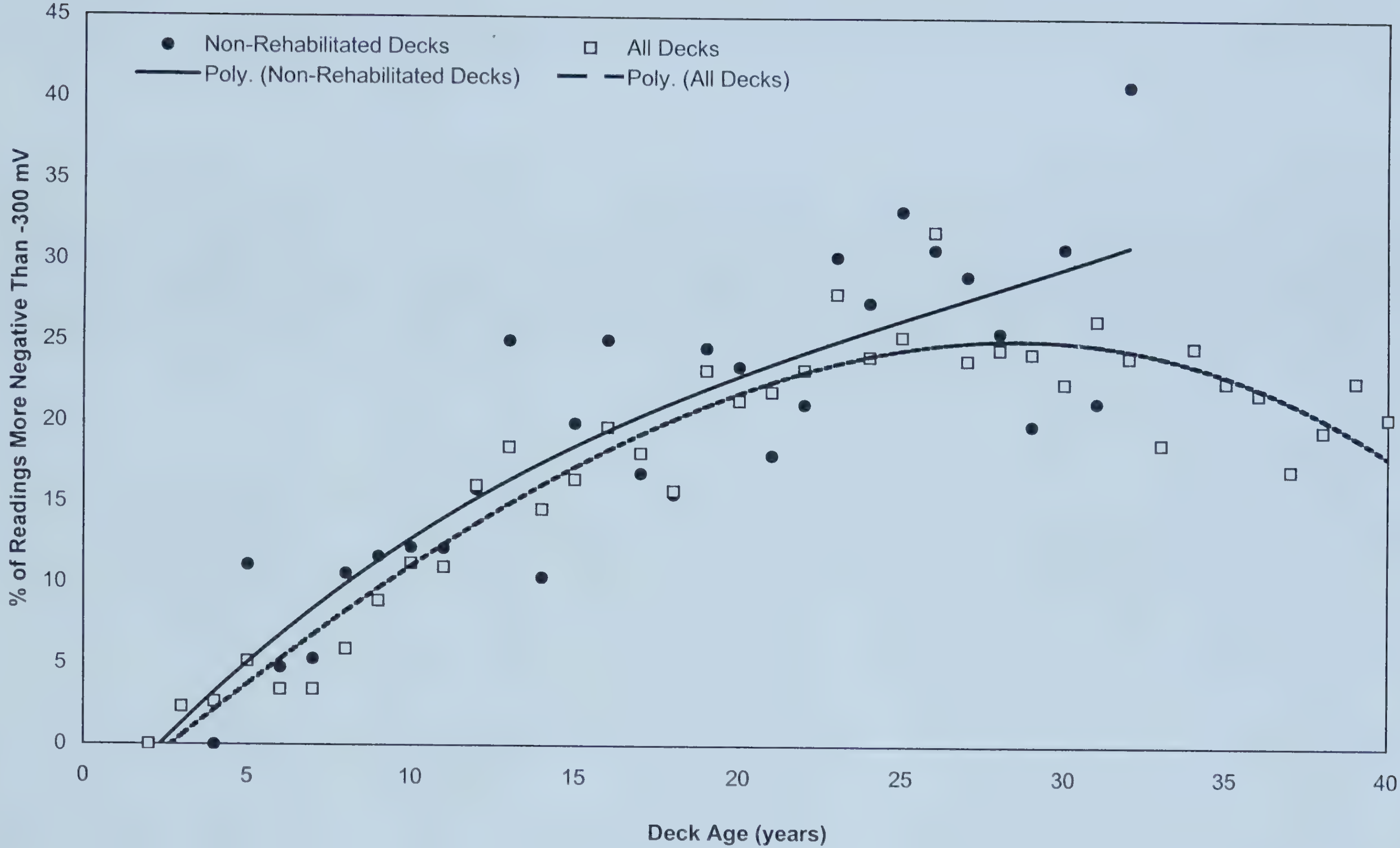

Figure 4.36. Average Percentage of All CSE Readings More Negative Than -300 mV v. Deck Age For All Decks and Non-Rehabilitated Decks

4.10 Summary

It is shown that decks on steel girders deteriorate at a higher rate than decks on concrete girders. The percentage of CSE readings more negative than –300 mV is 15 % higher for steel girder bridges than it is for concrete girder bridges at any given age. Higher corrosion levels are necessitating the rehabilitation of decks on steel girders approximately 10 years prior to the rehabilitation of decks on concrete girders. This difference in deterioration levels is due primarily to design differences between the two types of bridges. Steel girders are far more likely to be continuous over their supports than concrete girders. Steel girder bridges also tend to have longer span lengths and higher girder spacings. All these factors lead to increased negative curvatures in the bridge decks, causing surface cracking and allowing corrosive elements direct access to the top mat of reinforcing. Concrete decks on continuous steel girder bridges are found to typically require rehabilitation after about 20 years. Decks on continuous concrete girder bridges are typically rehabilitated after about 28 years, and those on simple span concrete bridges are generally rehabilitated after about 30 years of service.

Cover depth is found to have very little effect on the corrosion rates of decks steel. Increased cover is only beneficial if it does not crack. The data in this study indicates that the majority of bridge decks in Alberta are cracked and are unresponsive to changes in cover depth. Based on these findings, it can be inferred that, since bridge decks are generally cracked, corrosion levels will also be unresponsive to improvements in the quality of concrete. The use of flexible waterproofing membranes and advanced crack control measures would be expanded to prevent corrosive solutions from reaching the top mat of reinforcing steel.

The quantity and layout of reinforcing steel is found to have little effect on corrosion. Smaller, more closely spaced longitudinal bars are correlated with lower corrosion levels. Longitudinal bars control transverse cracking, and more bars spaced more closely together are better at preventing the growth of transverse cracks. The configuration of transverse bars has no effect on corrosion levels.

Other factors are found to have less significant influences on deterioration of the deck. Rates of deterioration are found to increase with skew angle, especially in older bridge decks. Skewed bridges tend to accumulate damage at a higher rate than straight crossings. Intermediate diaphragms have no effect on the durability of concrete bridge decks.

CHAPTER 5
CONCLUSIONS

5.1 Summary of Research

Several steps have been completed to demonstrate the choices a designer can make to extend the life of concrete bridge decks.

A literature review was conducted to determine the current state of knowledge on the deterioration of concrete bridge decks, and to help establish an appropriate scope for this project. Two broad-based studies on bridge deterioration were reviewed. Dunker and Rabbat investigated bridge deck deterioration by studying historical visual inspection ratings contained in the FHWA database. They found that structurally deficient steel girder bridges vastly outnumbered structurally deficient concrete girder bridges. Based on the random nature of regional variations in performance, Dunker and Rabbat concluded that maintenance policies strongly influence the durability performance of bridges. Ramey and Wright conducted their research on a regional population of bridges. By reviewing experiences within the Alabama Department of Transportation, they concluded that the most structurally deficient major bridge component was the deck. Ramey and Wright concluded that deck deterioration and durability is closely related to cracking. A large number of independent studies were also reviewed to assess the influence of design on a factor-by-factor basis.

Copper sulphate electrode (CSE) test results are used as an objective measurement of concrete bridge deck deterioration. CSE testing is a non-invasive test which measures the potential between a probe, consisting of a copper – copper-sulphate half cell, placed on the surface of the bridge deck, and the reinforcing bars embedded within the bridge deck, with which the probe is electrically continuous. The potential readings are then correlated to corrosion levels within the steel. The Province of Alberta has had a CSE testing program in place since the 1977, and has collected and tabulated corrosion data on approximately 1000 bridges. Many bridges have had CSE testing carried out on five or more occasions over a period spanning in excess of twenty years. To better understand the nuances associated with CSE testing, the author of this thesis spent two weeks working with bridge testing crews gathering CSE data. Several more weeks were spent working with engineers analyzing and applying the data that had been collected in the field.

A relational database is set up in MS Access to store and manage the CSE data. Inventory and test data is separated into several tables, all of which are related to one another through a common field. The fields in the database are based on those found in Alberta Transportation

databases. General inventory data is stored in one large table. More specific inventory data and test data are separated into several smaller tables. Once completed, queries are used to create several subpopulations of bridges based on individual design characteristics.

Scatter plots are used to investigate correlations between design choices and CSE readings. CSE test results for mutually exclusive populations of bridges are plotted together against the age of the deck in order to determine differences between the deterioration trends of the two groups. In cases where it can be determined that differences in corrosion levels between the two populations is significant at the majority of deck ages, it is concluded that the two populations have different deterioration characteristics. Where quantifiable measurements of the physical characteristics of the bridge exist, CSE is plotted against the design trait to determine whether deterioration varies within a specific design family. Statistical methods are used to assess the strength of the correlation between specific design traits and deck corrosion.

A statistical investigation is undertaken in situations showing stronger correlations. Regression analyses are performed to provide a visual model of the trends in the data. The coefficient of determination is calculated to assess the level of dependence of one variable on another. Analysis of variance (ANOVA) is performed to determine the validity of the regression analysis. Significance testing is used to determine whether the difference in deterioration levels of mutually exclusive populations of bridge decks is significant.

5.2 Conclusions

Based on observation and analysis of historical CSE test results in the province of Alberta, the following conclusions can be made.

1. Bridge decks supported on steel girders deteriorate faster than decks supported on concrete girders. Decks on steel girders last approximately 20 years, while decks on concrete girders last approximately 30 years before requiring rehabilitation. The percentage of actively corroding steel in a population of steel bridges is 15 % higher than in a population of concrete girder bridges of similar age.

2. Decks on continuous bridges show significantly higher levels of deterioration than decks on simple span bridges. At a given age, the relative amount of the top mat of reinforcing showing active corrosion in continuous bridge decks is 11 % higher than it is for simply supported bridges. Corrosion levels in decks on simple spans lag those of decks on continuous spans by approximately 13 years. Differences in deck corrosion levels are most prominent prior to rehabilitation. Cracking in negative moment regions of continuous decks leads to increased levels of deterioration.

3. Changes in cover depth only affect the deterioration of uncracked bridge decks. Study results suggest that the majority of bridge decks in Alberta are cracked and are unaffected by increases in the depth of cover. In such situations, it is reasonable to conclude that if the amount of concrete cover has little influence, improvements in the quality of the concrete cover will have little influence. It can be inferred that low permeability concrete will have little effect on the deterioration of cracked decks.

4. Longitudinal bars control transverse cracks, and there is an advantage to using smaller bars spaced more closely together, instead of larger bars with larger spacings. Each 100 mm reduction in bar spacing corresponds to a 4 % reduction in the percentage of CSE readings more negative than – 300 mV. Transverse bar size or spacing does not affect deck deterioration. The quantity of steel in the top mat has no effect on corrosion levels.

5. The percentage of CSE readings indicating active corrosion appears to increase with the transverse span-to-depth ratio of the deck. The percentage of CSE readings showing active corrosion in bridge decks with a transverse span-to-depth ratio of 20 is approximately 9 % higher than for bridge decks with a transverse span-to-depth ratio of 10. The positive correlation is likely due to increased longitudinal deck cracking over the girder lines.

6. Changes in girder stiffness have a negligible effect on the deterioration levels of continuous bridge decks. The deterioration of simply supported decks, which remain in compression when loaded, is also unaffected by changes in the flexibility of bridge girders.

7. Rehabilitation of bridge decks supported on steel girders occurs approximately 20 years after their original construction. Rehabilitation of decks on concrete girders occurs approximately 30 years after their original construction. Continuous concrete girder bridges are rehabilitated approximately 2 years before simple span concrete girder bridges. Bridges tend to be rehabilitated to similar standards, causing significant differences in corrosion levels prior to rehabilitation to be reduced or eliminated after approximately 30 years.

5.3 Design Recommendations

Based on the above conclusions, the following design recommendations are made.

1. When performing life cycle cost analyses, the design life for decks on steel girders should be estimated at 20 years, while the design life for decks on concrete girders should be

estimated at 30 years. Every effort should be made to prevent early-age deck cracking in steel girder bridges.

2. Reducing the intensity of the negative moment over the supports of continuous structures will help extend the life of the deck. Moment reductions can be achieved by allowing the center support of a continuous two-span structure to settle a specified amount after the deck has been cast. Promoting upward camber of precast, prestressed concrete girders made continuous through the deck will also help reduce the intensity of the negative moment over supports.

3. The use of flexible membranes and sealants should be specified to prevent corrosive elements from contacting the top mat of reinforcing steel. Less emphasis should be placed on increasing cover depths and improving the quality of concrete cover. Where membranes and sealants are not specified, improving crack control will provide a greater benefit than either increased cover depths or reduced concrete permeability. Measures that can be taken to control cracking include proper curing, the use of fibre reinforcement, and self-healing concrete.

4. To help control transverse cracking, use smaller, closely spaced bars in the longitudinal direction. This strategy will increase the probability that a crack will be intercepted by reinforcement before growing beyond an insignificant size improving the effectiveness of membranes and sealants.

5. An increase in girder spacing should be accompanied by an increase in deck thickness. Extreme fibre stresses in the deck should be kept well below the modulus of rupture over the girder lines to prevent longitudinal cracking.

6. Where possible, girder stiffness should be increased over supports to reduce negative curvature in continuous structures. This is most easily accomplished by using a tapered profile for cast-in-place girders, or increasing flange plate thicknesses over the supports for welded steel girders.

5.4 Research Recommendations

There are several projects that would further the initiatives of this research. A better understanding of the interaction between the steel girders and the concrete deck may provide insight into why decks on steel girders show higher rates of deterioration. An examination of the strain incompatibilities experienced by actual steel girder bridges would likely yield some interesting results. The influence of steel girders and other large steel masses on CSE test readings should also be investigated. Although expert opinion is that corrosion of the steel

girders would have little to no effect on test results, a formal investigation could eliminate any lingering doubt.

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APPENDIX A
STATISTICAL ANALYSES

This appendix presents the details of the statistical analyses which support Figures 4.1, 4.4, 4.10, 4.11, 4.12, 4.17, 4.18, and 4.22. The table titles identify what figure the data supports and the type of test performed.

Figure 4.1 - t-Tests - Concrete and Steel

5 Years	*Steel*	*Concrete*
Mean	0.1566	0.165090909
Variance	0.0076948	0.005747491
Observations	5	11
Pooled Variance	0.006303865	
Hypothesized Mean Difference	0	
df	14	
t Stat	-0.198276888	
P(T<=t) one-tail	0.422839387	
t Critical one-tail	1.76130925	
P(T<=t) two-tail	0.845678774	
t Critical two-tail	2.144788596	

6 Years	*Steel*	*Concrete*
Mean	0.1835	0.169125
Variance	0.0038319	0.005253268
Observations	6	8
Pooled Variance	0.004661031	
Hypothesized Mean Difference	0	
df	12	
t Stat	0.389873258	
P(T<=t) one-tail	0.351730842	
t Critical one-tail	1.782286745	
P(T<=t) two-tail	0.703461683	
t Critical two-tail	2.178812792	

8 Years	*Steel*	*Concrete*
Mean	0.166	0.1395
Variance	0.023931	0.0042605
Observations	3	10
Pooled Variance	0.007836955	
Hypothesized Mean Difference	0	
df	11	
t Stat	0.45473791	
P(T<=t) one-tail	0.329070443	
t Critical one-tail	1.795883691	
P(T<=t) two-tail	0.658140887	
t Critical two-tail	2.200986273	

9 Years	*Steel*	*Concrete*
Mean	0.271333333	0.16575
Variance	0.002799067	0.00383689
Observations	6	44
Pooled Variance	0.003728783	
Hypothesized Mean Difference	0	
df	48	
t Stat	3.973093412	
P(T<=t) one-tail	0.000118678	
t Critical one-tail	1.677224191	
P(T<=t) two-tail	0.000237356	
t Critical two-tail	2.01063358	

10 Years	*Steel*	*Concrete*
Mean	0.215333333	0.15712
Variance	0.01068375	0.003322193
Observations	9	25
Pooled Variance	0.005162583	
Hypothesized Mean Difference	0	
df	32	
t Stat	2.084206596	
P(T<=t) one-tail	0.022604253	
t Critical one-tail	1.693888407	
P(T<=t) two-tail	0.045208506	
t Critical two-tail	2.036931619	

11 Years	*Steel*	*Concrete*
Mean	0.2199	0.1585
Variance	0.009817433	0.001959045
Observations	10	34
Pooled Variance	0.003642986	
Hypothesized Mean Difference	0	
df	42	
t Stat	2.827826483	
P(T<=t) one-tail	0.003575517	
t Critical one-tail	1.681951289	
P(T<=t) two-tail	0.007151034	
t Critical two-tail	2.018082341	

12 Years	*Steel*	*Concrete*
Mean	0.253818182	0.152807692
Variance	0.005951364	0.003343282
Observations	11	26
Pooled Variance	0.004088448	
Hypothesized Mean Difference	0	
df	35	
t Stat	4.392071474	
P(T<=t) one-tail	4.95177E-05	
t Critical one-tail	1.689572855	
P(T<=t) two-tail	9.90353E-05	
t Critical two-tail	2.030110409	

13 Years	*Steel*	*Concrete*
Mean	0.247666667	0.1625
Variance	0.006657333	0.003800348
Observations	12	24
Pooled Variance	0.004724667	
Hypothesized Mean Difference	0	
df	34	
t Stat	3.504524144	
P(T<=t) one-tail	0.00065229	
t Critical one-tail	1.690923455	
P(T<=t) two-tail	0.001304581	
t Critical two-tail	2.032243174	

14 Years	*Steel*	*Concrete*
Mean	0.244636364	0.179108108
Variance	0.016904255	0.002862155
Observations	11	37
Pooled Variance	0.005914785	
Hypothesized Mean Difference	0	
df	46	
t Stat	2.481051097	
P(T<=t) one-tail	0.008408525	
t Critical one-tail	1.678658919	
P(T<=t) two-tail	0.01681705	
t Critical two-tail	2.012893674	

15 Years	*Steel*	*Concrete*
Mean	0.23725	0.170939394
Variance	0.0132166	0.005806809
Observations	16	33
Pooled Variance	0.008171636	
Hypothesized Mean Difference	0	
df	47	
t Stat	2.407949749	
P(T<=t) one-tail	0.010009612	
t Critical one-tail	1.677926775	
P(T<=t) two-tail	0.020019224	
t Critical two-tail	2.011738616	

16 Years	*Steel*	*Concrete*
Mean	0.233736842	0.166083333
Variance	0.01026576	0.006725558
Observations	19	24
Pooled Variance	0.008279793	
Hypothesized Mean Difference	0	
df	41	
t Stat	2.421189471	
P(T<=t) one-tail	0.009990737	
t Critical one-tail	1.682878974	
P(T<=t) two-tail	0.019981473	
t Critical two-tail	2.01954208	

17 Years	*Steel*	*Concrete*
Mean	0.206809524	0.177780488
Variance	0.018735762	0.004660776
Observations	21	41
Pooled Variance	0.009352438	
Hypothesized Mean Difference	0	
df	60	
t Stat	1.118602879	
P(T<=t) one-tail	0.133884074	
t Critical one-tail	1.670648544	
P(T<=t) two-tail	0.267768148	
t Critical two-tail	2.000297172	

18 Years	Steel	Concrete
Mean	0.216933333	0.165333333
Variance	0.012077857	0.005425657
Observations	30	36
Pooled Variance	0.008439935	
Hypothesized Mean Difference	0	
df	64	
t Stat	2.272061329	
P(T<=t) one-tail	0.013225875	
t Critical one-tail	1.669013727	
P(T<=t) two-tail	0.026451751	
t Critical two-tail	1.99772785	

19 Years	Steel	Concrete
Mean	0.249	0.196166667
Variance	0.0092549	0.007559362
Observations	21	42
Pooled Variance	0.008115276	
Hypothesized Mean Difference	0	
df	61	
t Stat	2.194423187	
P(T<=t) one-tail	0.016011432	
t Critical one-tail	1.670218808	
P(T<=t) two-tail	0.032022864	
t Critical two-tail	1.999624146	

20 Years	Steel	Concrete
Mean	0.278736842	0.163047619
Variance	0.006863649	0.004469168
Observations	19	42
Pooled Variance	0.005199688	
Hypothesized Mean Difference	0	
df	59	
t Stat	5.802842621	
P(T<=t) one-tail	1.37021E-07	
t Critical one-tail	1.671091923	
P(T<=t) two-tail	2.74042E-07	
t Critical two-tail	2.000997483	

21 Years	Steel	Concrete
Mean	0.230636364	0.184631579
Variance	0.011706055	0.007387536
Observations	11	38
Pooled Variance	0.00830637	
Hypothesized Mean Difference	0	
df	47	
t Stat	1.474305441	
P(T<=t) one-tail	0.073533272	
t Critical one-tail	1.677926775	
P(T<=t) two-tail	0.147066545	
t Critical two-tail	2.011738616	

22 Years	*Steel*	*Concrete*
Mean	0.295555556	0.17284375
Variance	0.00388485	0.008732394
Observations	18	32
Pooled Variance	0.007015555	
Hypothesized Mean Difference	0	
df	48	
t Stat	4.972577425	
P(T<=t) one-tail	4.42518E-06	
t Critical one-tail	1.677224191	
P(T<=t) two-tail	8.85037E-06	
t Critical two-tail	2.01063358	

23 Years	*Steel*	*Concrete*
Mean	0.231525	0.220159091
Variance	0.007519025	0.007456974
Observations	40	44
Pooled Variance	0.007486486	
Hypothesized Mean Difference	0	
df	82	
t Stat	0.601287059	
P(T<=t) one-tail	0.274653736	
t Critical one-tail	1.663647708	
P(T<=t) two-tail	0.549307473	
t Critical two-tail	1.989319571	

24 Years	*Steel*	*Concrete*
Mean	0.229411765	0.171085714
Variance	0.00949425	0.005568316
Observations	34	35
Pooled Variance	0.007501985	
Hypothesized Mean Difference	0	
df	67	
t Stat	2.796555327	
P(T<=t) one-tail	0.003367221	
t Critical one-tail	1.667915512	
P(T<=t) two-tail	0.006734442	
t Critical two-tail	1.996008905	

25 Years	*Steel*	*Concrete*
Mean	0.2491875	0.214083333
Variance	0.023355896	0.006726364
Observations	16	36
Pooled Variance	0.011715224	
Hypothesized Mean Difference	0	
df	50	
t Stat	1.079426172	
P(T<=t) one-tail	0.142788717	
t Critical one-tail	1.675905423	
P(T<=t) two-tail	0.285577433	
t Critical two-tail	2.008559932	

26 Years	*Steel*	*Concrete*
Mean	0.2453	0.204392857
Variance	0.010766011	0.008855507
Observations	20	28
Pooled Variance	0.009644628	
Hypothesized Mean Difference	0	
df	46	
t Stat	1.42275397	
P(T<=t) one-tail	0.080777029	
t Critical one-tail	1.678658919	
P(T<=t) two-tail	0.161554058	
t Critical two-tail	2.012893674	

27 Years	*Steel*	*Concrete*
Mean	0.228111111	0.214404762
Variance	0.007787281	0.007937222
Observations	18	42
Pooled Variance	0.007893274	
Hypothesized Mean Difference	0	
df	58	
t Stat	0.547618956	
P(T<=t) one-tail	0.293027434	
t Critical one-tail	1.671553491	
P(T<=t) two-tail	0.586054868	
t Critical two-tail	2.001715984	

28 Years	*Steel*	*Concrete*
Mean	0.244763158	0.193241379
Variance	0.005556294	0.01009219
Observations	38	29
Pooled Variance	0.007510218	
Hypothesized Mean Difference	0	
df	65	
t Stat	2.411115235	
P(T<=t) one-tail	0.009369687	
t Critical one-tail	1.668636287	
P(T<=t) two-tail	0.018739375	
t Critical two-tail	1.997136678	

29 Years	*Steel*	*Concrete*
Mean	0.245777778	0.159862069
Variance	0.014127595	0.005785123
Observations	18	29
Pooled Variance	0.008936724	
Hypothesized Mean Difference	0	
df	45	
t Stat	3.028794014	
P(T<=t) one-tail	0.002028542	
t Critical one-tail	1.679427442	
P(T<=t) two-tail	0.004057084	
t Critical two-tail	2.014103302	

30 Years	Steel	Concrete
Mean	0.238	0.18668
Variance	0.011791333	0.00823356
Observations	25	25
Pooled Variance	0.010012447	
Hypothesized Mean Difference	0	
df	48	
t Stat	1.81330787	
P(T<=t) one-tail	0.038019671	
t Critical one-tail	1.677224191	
P(T<=t) two-tail	0.076039342	
t Critical two-tail	2.01063358	

31 Years	Steel	Concrete
Mean	0.234409091	0.210541667
Variance	0.009459587	0.005624085
Observations	22	24
Pooled Variance	0.007454665	
Hypothesized Mean Difference	0	
df	44	
t Stat	0.93654688	
P(T<=t) one-tail	0.177051968	
t Critical one-tail	1.680230071	
P(T<=t) two-tail	0.354103936	
t Critical two-tail	2.0153675	

32 Years	Steel	Concrete
Mean	0.282148148	0.186666667
Variance	0.004274746	0.007836667
Observations	27	33
Pooled Variance	0.006239944	
Hypothesized Mean Difference	0	
df	58	
t Stat	4.657920119	
P(T<=t) one-tail	9.549E-06	
t Critical one-tail	1.671553491	
P(T<=t) two-tail	1.9098E-05	
t Critical two-tail	2.001715984	

33 Years	Steel	Concrete
Mean	0.207727273	0.185533333
Variance	0.011746208	0.006448051
Observations	22	30
Pooled Variance	0.008673277	
Hypothesized Mean Difference	0	
df	50	
t Stat	0.849010562	
P(T<=t) one-tail	0.199961055	
t Critical one-tail	1.675905423	
P(T<=t) two-tail	0.399922111	
t Critical two-tail	2.008559932	

34 Years	Steel	Concrete
Mean	0.229882353	0.186692308
Variance	0.009393735	0.010132897
Observations	17	13
Pooled Variance	0.009710519	
Hypothesized Mean Difference	0	
df	28	
t Stat	1.189591756	
P(T<=t) one-tail	0.122098407	
t Critical one-tail	1.701130259	
P(T<=t) two-tail	0.244196813	
t Critical two-tail	2.048409442	

35 Years	Steel	Concrete
Mean	0.235652174	0.2
Variance	0.006879146	0.012762273
Observations	23	23
Pooled Variance	0.009820709	
Hypothesized Mean Difference	0	
df	44	
t Stat	1.22001032	
P(T<=t) one-tail	0.114479931	
t Critical one-tail	1.680230071	
P(T<=t) two-tail	0.228959862	
t Critical two-tail	2.0153675	

36 Years	Steel	Concrete
Mean	0.235388889	0.219941176
Variance	0.008683075	0.007432434
Observations	18	17
Pooled Variance	0.008076704	
Hypothesized Mean Difference	0	
df	33	
t Stat	0.508245795	
P(T<=t) one-tail	0.307330934	
t Critical one-tail	1.692360456	
P(T<=t) two-tail	0.614661867	
t Critical two-tail	2.03451691	

37 Years	Steel	Concrete
Mean	0.256727273	0.187952381
Variance	0.001035218	0.004687248
Observations	11	21
Pooled Variance	0.003469904	
Hypothesized Mean Difference	0	
df	30	
t Stat	3.13691071	
P(T<=t) one-tail	0.00190409	
t Critical one-tail	1.697260359	
P(T<=t) two-tail	0.003808181	
t Critical two-tail	2.042270353	

38 Years	*Steel*	*Concrete*
Mean	0.218	0.182363636
Variance	0.0139242	0.005882055
Observations	11	11
Pooled Variance	0.009903127	
Hypothesized Mean Difference	0	
df	20	
t Stat	0.839824512	
P(T<=t) one-tail	0.205467036	
t Critical one-tail	1.724718004	
P(T<=t) two-tail	0.410934072	
t Critical two-tail	2.085962478	

39 Years	*Steel*	*Concrete*
Mean	0.2338	0.2296
Variance	0.0024746	0.015433822
Observations	15	10
Pooled Variance	0.0075456	
Hypothesized Mean Difference	0	
df	23	
t Stat	0.118434444	
P(T<=t) one-tail	0.453375866	
t Critical one-tail	1.713870006	
P(T<=t) two-tail	0.906751732	
t Critical two-tail	2.068654794	

40 Years	*Steel*	*Concrete*
Mean	0.225454545	0.192666667
Variance	0.018987473	0.004723152
Observations	11	12
Pooled Variance	0.011515685	
Hypothesized Mean Difference	0	
df	21	
t Stat	0.73196695	
P(T<=t) one-tail	0.236139608	
t Critical one-tail	1.720743512	
P(T<=t) two-tail	0.472279217	
t Critical two-tail	2.079614205	

Figure 4.4 - t-Tests - Simple and Continuous

5 Years	Simple	Continuous
Mean	0.165111111	0.159
Variance	0.007709861	0.004446
Observations	9	7
Pooled Variance	0.006311063	
Hypothesized Mean Difference	0	
df	14	
t Stat	0.152643807	
P(T<=t) one-tail	0.440428647	
t Critical one-tail	1.76130925	
P(T<=t) two-tail	0.880857293	
t Critical two-tail	2.144788596	

6 Years	Simple	Continuous
Mean	0.177111111	0.1895
Variance	0.005170611	0.003022333
Observations	9	4
Pooled Variance	0.004584717	
Hypothesized Mean Difference	0	
df	11	
t Stat	-0.304477817	
P(T<=t) one-tail	0.383223415	
t Critical one-tail	1.795883691	
P(T<=t) two-tail	0.766446831	
t Critical two-tail	2.200986273	

7 Years	Simple	Continuous
Mean	0.160384615	0.169
Variance	0.005184923	0.003718667
Observations	13	4
Pooled Variance	0.004891672	
Hypothesized Mean Difference	0	
df	15	
t Stat	-0.215438455	
P(T<=t) one-tail	0.416163724	
t Critical one-tail	1.753051038	
P(T<=t) two-tail	0.832327449	
t Critical two-tail	2.131450856	

8 Years	*Simple*	*Continuous*
Mean	0.168	0.1325
Variance	0.002805	0.020443
Observations	7	4
Pooled Variance	0.008684333	
Hypothesized Mean Difference	0	
df	9	
t Stat	0.607774933	
P(T<=t) one-tail	0.279179521	
t Critical one-tail	1.833113856	
P(T<=t) two-tail	0.558359041	
t Critical two-tail	2.262158887	

9 Years	Simple	Continuous
Mean	0.171333333	0.2485
Variance	0.003625228	0.004391429
Observations	39	8
Pooled Variance	0.003744415	
Hypothesized Mean Difference	0	
df	45	
t Stat	-3.249122841	
P(T<=t) one-tail	0.001096515	
t Critical one-tail	1.679427442	
P(T<=t) two-tail	0.00219303	
t Critical two-tail	2.014103302	

10 Years	Simple	Continuous
Mean	0.1648	0.215333333
Variance	0.003583747	0.01068375
Observations	20	9
Pooled Variance	0.005687452	
Hypothesized Mean Difference	0	
df	27	
t Stat	-1.669384334	
P(T<=t) one-tail	0.053298584	
t Critical one-tail	1.703288035	
P(T<=t) two-tail	0.106597168	
t Critical two-tail	2.051829142	

11 Years	Simple	Continuous
Mean	0.166444444	0.2044
Variance	0.003516641	0.0081344
Observations	27	15
Pooled Variance	0.005132857	
Hypothesized Mean Difference	0	
df	40	
t Stat	-1.645124047	
P(T<=t) one-tail	0.053890659	
t Critical one-tail	1.683852133	
P(T<=t) two-tail	0.107781318	
t Critical two-tail	2.021074579	

12 Years	Simple	Continuous
Mean	0.173294118	0.237
Variance	0.005868346	0.008804545
Observations	17	12
Pooled Variance	0.007064575	
Hypothesized Mean Difference	0	
df	27	
t Stat	-2.010261684	
P(T<=t) one-tail	0.027245296	
t Critical one-tail	1.703288035	
P(T<=t) two-tail	0.054490592	
t Critical two-tail	2.051829142	

13 Years	*Simple*	*Continuous*
Mean	0.197235294	0.2308
Variance	0.009066566	0.005736029
Observations	17	15
Pooled Variance	0.007512315	
Hypothesized Mean Difference	0	
df	30	
t Stat	-1.093178404	
P(T<=t) one-tail	0.141508101	
t Critical one-tail	1.697260359	
P(T<=t) two-tail	0.283016201	
t Critical two-tail	2.042270353	

14 Years	*Simple*	*Continuous*
Mean	0.186925926	0.240933333
Variance	0.003209533	0.012240495
Observations	27	15
Pooled Variance	0.00637037	
Hypothesized Mean Difference	0	
df	40	
t Stat	-2.10123139	
P(T<=t) one-tail	0.020983868	
t Critical one-tail	1.683852133	
P(T<=t) two-tail	0.041967736	
t Critical two-tail	2.021074579	

15 Years	*Simple*	*Continuous*
Mean	0.171037037	0.21185
Variance	0.00551396	0.011420239
Observations	27	20
Pooled Variance	0.008007723	
Hypothesized Mean Difference	0	
df	45	
t Stat	-1.545936206	
P(T<=t) one-tail	0.064562204	
t Critical one-tail	1.679427442	
P(T<=t) two-tail	0.129124409	
t Critical two-tail	2.014103302	

16 Years	*Simple*	*Continuous*
Mean	0.17	0.22328
Variance	0.006757867	0.009981627
Observations	16	25
Pooled Variance	0.008741719	
Hypothesized Mean Difference	0	
df	39	
t Stat	-1.779933853	
P(T<=t) one-tail	0.041439819	
t Critical one-tail	1.684875315	
P(T<=t) two-tail	0.082879638	
t Critical two-tail	2.022688932	

17 Years	*Simple*	*Continuous*
Mean	0.1829375	0.199666667
Variance	0.004116835	0.01766258
Observations	32	24
Pooled Variance	0.009886319	
Hypothesized Mean Difference	0	
df	54	
t Stat	-0.623079699	
P(T<=t) one-tail	0.267927472	
t Critical one-tail	1.673565748	
P(T<=t) two-tail	0.535854945	
t Critical two-tail	2.004881026	

18 Years	*Simple*	*Continuous*
Mean	0.151774194	0.208941176
Variance	0.005340047	0.011210966
Observations	31	34
Pooled Variance	0.008415291	
Hypothesized Mean Difference	0	
df	63	
t Stat	-2.509425709	
P(T<=t) one-tail	0.007338029	
t Critical one-tail	1.669402536	
P(T<=t) two-tail	0.014676059	
t Critical two-tail	1.998341759	

19 Years	*Simple*	*Continuous*
Mean	0.204666667	0.244210526
Variance	0.007270228	0.006848287
Observations	39	19
Pooled Variance	0.007134604	
Hypothesized Mean Difference	0	
df	56	
t Stat	-1.673359395	
P(T<=t) one-tail	0.049917184	
t Critical one-tail	1.672522103	
P(T<=t) two-tail	0.099834367	
t Critical two-tail	2.003239388	

20 Years	*Simple*	*Continuous*
Mean	0.152066667	0.248
Variance	0.005053444	0.009296
Observations	30	26
Pooled Variance	0.00701759	
Hypothesized Mean Difference	0	
df	54	
t Stat	-4.273943959	
P(T<=t) one-tail	3.92738E-05	
t Critical one-tail	1.673565748	
P(T<=t) two-tail	7.85475E-05	
t Critical two-tail	2.004881026	

21 Years	Simple	Continuous
Mean	0.188289474	0.23
Variance	0.009041563	0.010518842
Observations	38	20
Pooled Variance	0.009542782	
Hypothesized Mean Difference	0	
df	56	
t Stat	-1.545613699	
P(T<=t) one-tail	0.063915436	
t Critical one-tail	1.672522103	
P(T<=t) two-tail	0.127830872	
t Critical two-tail	2.003239388	

22 years	Simple	Continuous
Mean	0.171678571	0.252666667
Variance	0.009875782	0.00642623
Observations	28	30
Pooled Variance	0.008089407	
Hypothesized Mean Difference	0	
df	56	
t Stat	-3.426797936	
P(T<=t) one-tail	0.000575499	
t Critical one-tail	1.672522103	
P(T<=t) two-tail	0.001150997	
t Critical two-tail	2.003239388	

23 Years	Simple	Continuous
Mean	0.238475	0.234585366
Variance	0.008036974	0.007082549
Observations	40	41
Pooled Variance	0.007553721	
Hypothesized Mean Difference	0	
df	79	
t Stat	0.201376	
P(T<=t) one-tail	0.420461093	
t Critical one-tail	1.664370757	
P(T<=t) two-tail	0.840922187	
t Critical two-tail	1.990451892	

24 Years	Simple	Continuous
Mean	0.180846154	0.236272727
Variance	0.005457818	0.01075133
Observations	39	33
Pooled Variance	0.007877709	
Hypothesized Mean Difference	0	
df	70	
t Stat	-2.640225928	
P(T<=t) one-tail	0.005103991	
t Critical one-tail	1.666915068	
P(T<=t) two-tail	0.010207982	
t Critical two-tail	1.994435479	

25 Years	Simple	Continuous
Mean	0.214926829	0.242631579
Variance	0.00770382	0.01658469
Observations	41	19
Pooled Variance	0.010459952	
Hypothesized Mean Difference	0	
df	58	
t Stat	-0.976073436	
P(T<=t) one-tail	0.166540848	
t Critical one-tail	1.671553491	
P(T<=t) two-tail	0.333081695	
t Critical two-tail	2.001715984	

26 Years	Simple	Continuous
Mean	0.186074074	0.255903226
Variance	0.009603687	0.006054957
Observations	27	31
Pooled Variance	0.007702581	
Hypothesized Mean Difference	0	
df	56	
t Stat	-3.022507232	
P(T<=t) one-tail	0.001888132	
t Critical one-tail	1.672522103	
P(T<=t) two-tail	0.003776264	
t Critical two-tail	2.003239388	

27 Years	Simple	Continuous
Mean	0.225870968	0.207964286
Variance	0.007953249	0.006269221
Observations	31	28
Pooled Variance	0.007155552	
Hypothesized Mean Difference	0	
df	57	
t Stat	0.811946504	
P(T<=t) one-tail	0.210100146	
t Critical one-tail	1.672028702	
P(T<=t) two-tail	0.420200291	
t Critical two-tail	2.002466317	

28 Years	Simple	Continuous
Mean	0.187826087	0.24344186
Variance	0.008927423	0.006795491
Observations	23	43
Pooled Variance	0.007528342	
Hypothesized Mean Difference	0	
df	64	
t Stat	-2.481272603	
P(T<=t) one-tail	0.007864555	
t Critical one-tail	1.669013727	
P(T<=t) two-tail	0.01572911	
t Critical two-tail	1.99772785	

29 Years	*Simple*	*Continuous*
Mean	0.189818182	0.242555556
Variance	0.009803591	0.009581791
Observations	33	18
Pooled Variance	0.00972664	
Hypothesized Mean Difference	0	
df	49	
t Stat	-1.824925816	
P(T<=t) one-tail	0.037055662	
t Critical one-tail	1.676551165	
P(T<=t) two-tail	0.074111324	
t Critical two-tail	2.009574018	

30 Years	*Simple*	*Continuous*
Mean	0.200892857	0.243074074
Variance	0.010613284	0.010179533
Observations	28	27
Pooled Variance	0.010400501	
Hypothesized Mean Difference	0	
df	53	
t Stat	-1.533456769	
P(T<=t) one-tail	0.065555775	
t Critical one-tail	1.674115993	
P(T<=t) two-tail	0.13111155	
t Critical two-tail	2.005745046	

31 Years	*Simple*	*Continuous*
Mean	0.20085	0.250333333
Variance	0.011476766	0.006092928
Observations	20	24
Pooled Variance	0.008528473	
Hypothesized Mean Difference	0	
df	42	
t Stat	-1.769773051	
P(T<=t) one-tail	0.042012367	
t Critical one-tail	1.681951289	
P(T<=t) two-tail	0.084024734	
t Critical two-tail	2.018082341	

32 Years	*Simple*	*Continuous*
Mean	0.202074074	0.241266667
Variance	0.012021533	0.005394133
Observations	27	30
Pooled Variance	0.008527086	
Hypothesized Mean Difference	0	
df	55	
t Stat	-1.599958649	
P(T<=t) one-tail	0.057668496	
t Critical one-tail	1.673033694	
P(T<=t) two-tail	0.115336991	
t Critical two-tail	2.004044291	

33 Years	*Simple*	*Continuous*
Mean	0.196607143	0.1948
Variance	0.009217358	0.0088615
Observations	28	25
Pooled Variance	0.009049896	
Hypothesized Mean Difference	0	
df	51	
t Stat	0.06903698	
P(T<=t) one-tail	0.47261508	
t Critical one-tail	1.675284693	
P(T<=t) two-tail	0.945230161	
t Critical two-tail	2.007582225	

34 Years	*Simple*	*Continuous*
Mean	0.22985	0.2244
Variance	0.009214555	0.007567516
Observations	20	20
Pooled Variance	0.008391036	
Hypothesized Mean Difference	0	
df	38	
t Stat	0.188143285	
P(T<=t) one-tail	0.425882733	
t Critical one-tail	1.685953066	
P(T<=t) two-tail	0.851765466	
t Critical two-tail	2.024394234	

35 Years	*Simple*	*Continuous*
Mean	0.2106	0.222423077
Variance	0.012784253	0.004768174
Observations	20	26
Pooled Variance	0.008229662	
Hypothesized Mean Difference	0	
df	44	
t Stat	-0.438189797	
P(T<=t) one-tail	0.331696278	
t Critical one-tail	1.680230071	
P(T<=t) two-tail	0.663392557	
t Critical two-tail	2.0153675	

36 Years	*Simple*	*Continuous*
Mean	0.206888889	0.218526316
Variance	0.010065987	0.008096819
Observations	18	19
Pooled Variance	0.009053272	
Hypothesized Mean Difference	0	
df	35	
t Stat	-0.371848793	
P(T<=t) one-tail	0.356123656	
t Critical one-tail	1.689572855	
P(T<=t) two-tail	0.712247313	
t Critical two-tail	2.030110409	

37 Years	Simple	Continuous
Mean	0.212857143	0.220647059
Variance	0.006865929	0.002487493
Observations	21	17
Pooled Variance	0.004919957	
Hypothesized Mean Difference	0	
df	36	
t Stat	-0.340403821	
P(T<=t) one-tail	0.367765439	
t Critical one-tail	1.688297289	
P(T<=t) two-tail	0.735530879	
t Critical two-tail	2.02809133	

38 Years	Simple	Continuous
Mean	0.191	0.220625
Variance	0.006991579	0.010501696
Observations	20	8
Pooled Variance	0.007936611	
Hypothesized Mean Difference	0	
df	26	
t Stat	-0.794917026	
P(T<=t) one-tail	0.216929329	
t Critical one-tail	1.705616341	
P(T<=t) two-tail	0.433858657	
t Critical two-tail	2.055530786	

39 Years	Simple	Continuous
Mean	0.242588235	0.235444444
Variance	0.011261757	0.004053908
Observations	17	18
Pooled Variance	0.007548623	
Hypothesized Mean Difference	0	
df	33	
t Stat	0.243120484	
P(T<=t) one-tail	0.404708488	
t Critical one-tail	1.692360456	
P(T<=t) two-tail	0.809416977	
t Critical two-tail	2.03451691	

40 Years	Simple	Continuous
Mean	0.204333333	0.178666667
Variance	0.008898381	0.006692667
Observations	15	15
Pooled Variance	0.007795524	
Hypothesized Mean Difference	0	
df	28	
t Stat	0.796118014	
P(T<=t) one-tail	0.216330867	
t Critical one-tail	1.701130259	
P(T<=t) two-tail	0.432661733	
t Critical two-tail	2.048409442	

41 Years	*Simple*	*Continuous*
Mean	0.211941176	0.2086
Variance	0.003546684	0.0017473
Observations	17	5
Pooled Variance	0.003186807	
Hypothesized Mean Difference	0	
df	20	
t Stat	0.11633748	
P(T<=t) one-tail	0.454272671	
t Critical one-tail	1.724718004	
P(T<=t) two-tail	0.908545341	
t Critical two-tail	2.085962478	

42 Years	*Simple*	*Continuous*
Mean	0.1965	0.218428571
Variance	0.013537714	0.006678286
Observations	8	7
Pooled Variance	0.010371824	
Hypothesized Mean Difference	0	
df	13	
t Stat	-0.416036229	
P(T<=t) one-tail	0.342084846	
t Critical one-tail	1.770931704	
P(T<=t) two-tail	0.684169693	
t Critical two-tail	2.16036824	

43 Years	*Simple*	*Continuous*
Mean	0.312	0.255571429
Variance	0.017401	0.003992952
Observations	3	7
Pooled Variance	0.007344964	
Hypothesized Mean Difference	0	
df	8	
t Stat	0.954143857	
P(T<=t) one-tail	0.183973996	
t Critical one-tail	1.85954832	
P(T<=t) two-tail	0.367947992	
t Critical two-tail	2.306005626	

44 Years	*Simple*	*Continuous*
Mean	0.219666667	0.25025
Variance	0.007600333	0.003121583
Observations	3	4
Pooled Variance	0.004913083	
Hypothesized Mean Difference	0	
df	5	
t Stat	-0.571280442	
P(T<=t) one-tail	0.296264519	
t Critical one-tail	2.015049176	
P(T<=t) two-tail	0.592529037	
t Critical two-tail	2.570577635	

46 Years	*Simple*	*Continuous*
Mean	0.14525	0.234333333
Variance	0.001764917	0.002161333
Observations	4	3
Pooled Variance	0.001923483	
Hypothesized Mean Difference	0	
df	5	
t Stat	-2.659462362	
P(T<=t) one-tail	0.02245645	
t Critical one-tail	2.015049176	
P(T<=t) two-tail	0.0449129	
t Critical two-tail	2.570577635	

Figure 4.10 (All Data) - Linear Regression of Longitudinal Curvature (x) and Percentage of CSE Readings in Corrosive Range (y)

Regression Statistics

Multiple R	0.00628927
R Square	3.9555E-05
Adjusted R Square	-0.0046996
Standard Error	29.3607572
Observations	213

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	7.195073524	7.195	0.0083	0.927294174
Residual	211	181893.4078	862.1		
Total	212	181900.6029			

Parameter Estimates

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	33.1411206	6.935517856	4.778	3E-06	19.46933786	46.8129034
X Variable 1	-2024080.7	22155290.57	-0.091	0.9273	-45698154.68	41649993.4

Figure 4.11 (All Data) - Linear Regression of Span to Depth Ratio (x) and Average Percentage of CSE Readings in Corrosive Range (y)

Regression Statistics

Multiple R	0.11398495
R Square	0.01299257
Adjusted R Square	0.01043555
Standard Error	26.8296964
Observations	388

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	3657.576357	3658	5.0811	0.024747501
Residual	386	277855.3878	719.8		
Total	387	281512.9641			

Parameter Estimates

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	12.3838933	6.01832589	2.058	0.0403	0.551097501	24.216689
X Variable 1	1.01539085	0.450455925	2.254	0.0247	0.129737088	1.9010446

Figure 4.12 (Average Grouped Data) - Linear Regression of Cover Depth (x) and Percentage of CSE Readings in Corrosive Range (y)

Regression Statistics

Multiple R	0.9417974
R Square	0.88698235
Adjusted R Square	0.83047352
Standard Error	3.24934461
Observations	4

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	165.7258397	165.7	15.696	0.058202598
Residual	2	21.11648077	10.56		
Total	3	186.8423205			

Parameter Estimates

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	35.7993125	4.540754405	7.884	0.0157	16.2620096	55.336615
X Variable 1	-0.353661	0.089266362	-3.96	0.0582	-0.737743425	0.0304214

Figure 4.12 (All Data) - Linear Regression of Cover Depth (x) and Percentage of CSE Readings in Corrosive Range (y)

Regression Statistics

Multiple R	0.1914922
R Square	0.03666926
Adjusted R Square	0.02492133
Standard Error	27.6713417
Observations	84

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2390.017382	2390	3.1213	0.080994502
Residual	82	62787.65821	765.7		
Total	83	65177.6756			

Parameter Estimates

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	41.2156188	11.32595991	3.639	0.0005	18.68466506	63.746573
X Variable 1	-0.4684824	0.265169105	-1.77	0.081	-0.995988444	0.0590237

Figure 4.17 (Average Grouped Data) - Linear Regression of Reinforcing Ratio (x) and Percentage of CSE Reading in Corrosive Range (y)

Regression Statistics

Multiple R	0.7472763
R Square	0.5584218
Adjusted R Square	0.4701062
Standard Error	9.5175514
Observations	7

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	572.7633408	572.8	6.323	0.053528854
Residual	5	452.9189188	90.58		
Total	6	1025.68226			

Parameter Estimates

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	36.633205	5.983674269	6.122	0.0017	21.25170559	52.014704
X Variable 1	-35.438161	14.09317341	-2.51	0.0535	-71.66575714	0.7894356

Figure 4.17 (All Data) - Linear Regression of Reinforcing Ratio (x) and Percentage of CSE Reading in Corrosive Range (y)

Regression Statistics

Multiple R	0.08557514
R Square	0.00732311
Adjusted R Square	0.00541043
Standard Error	27.3074338
Observations	521

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2855.068251	2855	3.8287	0.050916871
Residual	519	387016.1937	745.7		
Total	520	389871.262			

Parameter Estimates

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	30.4534773	1.759997221	17.3	3E-53	26.99588369	33.911071
X Variable 1	-16.182241	8.270110309	-1.957	0.0509	-32.42924414	0.0647625

Figure 4.18 (Average Grouped Data) - Linear Regression of Reinforcing Ratio (x) and Percentage of CSE Reading in Corrosive Range (y)

Regression Statistics

Multiple R	0.59686644
R Square	0.35624954
Adjusted R Square	0.28472172
Standard Error	8.48069324
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	358.213531	358.2	4.9806	0.052549037
Residual	9	647.29942	71.92		
Total	10	1005.512951			

Parameter Estimates

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	18.8684203	4.890081216	3.859	0.0039	7.806279598	29.930561
X Variable 1	16.3722613	7.336163966	2.232	0.0525	-0.223307167	32.96783

Figure 4.18 (All Data) - Linear Regression of Reinforcing Ratio (x) and Percentage of CSE Reading in Corrosive Range (y)

Regression Statistics

Multiple R	0.1198626
R Square	0.014367
Adjusted R Square	0.0124679
Standard Error	27.249834
Observations	521

ANOVA

	df	SS	MS	F	Significance F
Regression	1	5617.552775	5618	7.5652	0.006158424
Residual	519	385385.2452	742.6		
Total	520	391002.798			

Parameter Estimates

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	18.561051	3.532271831	5.255	2E-07	11.62174439	25.500358
X Variable 1	14.505882	5.273930593	2.75	0.0062	4.145007947	24.866755

Figure 4.22 (Average Grouped Data) - Linear Regression of Longitudinal Bar Spacing (x) and Percentage of CSE Reading in Corrosive Range (y)

Regression Statistics

Multiple R	0.38593574
R Square	0.1489464
Adjusted R Square	0.10842004
Standard Error	13.975747
Observations	23

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	717.8644475	717.9	3.6753	0.068930449
Residual	21	4101.751589	195.3		
Total	22	4819.616037			

Parameter Estimates

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	8.55156251	7.190684843	1.189	0.2476	-6.402287832	23.505413
X Variable 1	0.03471349	0.018107235	1.917	0.0689	-0.002942569	0.0723696

Figure 4.22 (All Data) - Linear Regression of Longitudinal Bar Spacing (x) and Percentage of CSE Reading in Corrosive Range (y)

Regression Statistics

Multiple R	0.15043306
R Square	0.02263011
Adjusted R Square	0.01864084
Standard Error	28.9293987
Observations	247

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	4747.582728	4748	5.6728	0.017994726
Residual	245	205042.9762	837		
Total	246	209790.5589			

Parameter Estimates

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	8.4673217	7.49575532	1.13	0.2597	-6.297012656	23.231656
X Variable 1	0.04259677	0.017884626	2.38	0.018	0.007369559	0.077824

APPENDIX B
DATABASE

This appendix presents a hard copy of the database that was used during this project.

BRIDGE INFORMATION DATA

FileNumber	Category	Use	SpanType1	SpanType2	Simp/Cont	YearPrime	YearLast	Wear1	Wear2	SubDk1	SubDk2	Spans	SpanLn1	SpanLn2	SpanLn3	SpanLn4	SpanLn5	Length	Skew	ClWidth	DesLoad	AADT
00493W	M	RV	CF		C	52	64	A		C		1	13.7	0	0	0	0	13.7		13.4	HS20	A 450196
00756N	M	RV	FC		S	70	70	E		P		4	33.5	33.5	33.5	33.5	0	134		12.2	HS20	A 578099
00756S	M	RV	DBC		C	93	94	A		P		4	31	36	36	31	0	134		12.5	CS750	A 578099
01059E	M	RV	SCC		C	93	93	A		P		3	12	10	12	0	0	34		13.2	CS750	A 520099
01059W	S	RV	VS		S	77	77	A		P		3	10.7	10.7	10.7	0	0	32.1		13.7	HS25	A 520099
06780E	S	IC	HC		S	63	63	A		P		6	6.1	6.1	6.1	6.1	6.1	36.6		13.7	HS20	A 890099
06985E	M	RV	DBT		S	85	86	R		P		1	42	0	0	0	0	42	-20	13.1	MS300	A 619099
06985W	M	RV	CT		C	55	55	R		C		3	12.2	18.3	12.2	0	0	42.7	-20	14	HS20	A 619099
08435E	M	RV	CT		C	56	56	A		C		3	12.8	18.3	12.8	0	0	43.9		13.4	HS20	A 458099
08435W	M	RV	DBT		S	84	85	H		P		1	42	0	0	0	0	42		13.1	MS300	A 458099
09219E	M	RV	PMO			67	67	I		P		3	10.7	13.7	10.7	0	0	35.1		13.7	HS20	A 822099
09219W	M	RV	DBT		S	82	83	H		P		1	30	0	0	0	0	30		13.1	MS300	A 822099
09467E	M	GS	HC			63	65	A		P		3	6.1	11.6	6.1	0	0	23.8		14.6	HS20	A 1708096
09467W	M	GS	HC			63	65	A		P		3	6.1	11.6	6.1	0	0	23.8		14.6	HS20	A 1708096
09469N	M	RV	CT		C	60	60	E		C		3	12.2	16.5	12.2	0	0	40.9		11.6	HS20	A 702099
09469S	M	RV	CT		C	60	60	E		C		3	12.2	16.5	12.2	0	0	40.9		11.6	HS20	A 702099
09899W	M	RV	RB		C	55	72	A		C		3	21.9	27.4	21.9	0	0	71.2		13.4	HS20	A 459099
101	S	RV	HC		S	62	62	J		P		3	8.5	8.5	8.5	0	0	25.5		10.1	HS20	A 217099
102	M	RV	PM	PE	S	66	66	A	A	P	P	3	10.7	16.8	10.7	0	0	38.2	45	8.2	HS20	A 34099
1031	M	RV	SMC		C	89	89	A		P		4	11	11	11	11	0	44	30	13.3	MS300	A 71099
1049	S	IC	VSO		P	76	76	R		P		4	8.5	8.5	8.5	8.5	0	34		13.7	HS25	A 672099
1053	M	RV	CS		C	58	58	I		C		3	9.1	12.2	9.1	0	0	30.4		8.5	HS20	A 48099
1062	M	RV	PO		S	60	60	J		C		3	20.7	26.2	26.2	0	0	73.1		7.9	HS20	A 81099
1085	M	RV	PO		C	6	73	F		C		5	21.3	41.5	41.5	41.5	21.3	167.1		8.5	HS20	A 98099
1092	S	RV	HC		S	67	67	A		P		3	8.5	8.5	8.5	0	0	25.5	30	9.1	HS20	A 31099
1122	M	RV	CT		C	54	54	H		C		3	19.5	24.4	19.5	0	0	63.4		8.5	HS20	A 729099
1126	M	RV	DBT		S	84	85	N		P		2	30	30	0	0	0	60	10	7.5	MS300	E 10088
1137	M	RV	PO		S	58	58	A		P		2	19.8	19.8	0	0	0	39.6		7.9	HS20	A 88099
1140	M	RV	FM		S	80	81	R		P		3	16	36	16	0	0	68		10.7	MS230	A 108099
1145	M	RV	FC		S	69	69	J		P		4	29	29	29	29	0	116		9.1	HS20	A 1281099
1153	M	RV	PO		S	59	59	E		C		4	20.7	29	29	26.8	0	105.5		7.9	HS20	A 171099
1158	M	RV	RB		S	54	89	A		C		3	15.4	18.6	15.4	0	0	49.4		13	MS300	A 296099
1193	S	RV	PGO		S	60	60	F		P		3	8.5	8.5	8.5	0	0	25.5		7.3	HS20	E 9599
1219	S	RV	HC		S	68	68	Y		P		3	10.1	10.1	10.1	0	0	30.3		13.7	HS20	A 639099
1227	M	RV	PT		S	64	64	E		C		2	35.1	35.1	0	0	0	70.2		7.9	HS20	A 96099
1241	M	RV	FC		S	68	68	A		P		3	21.3	22.9	21.3	0	0	65.5		9.1	HS20	A 61099
1242	M	RV	DBT		S	85	86	N		P		1	40	0	0	0	0	40	-15	8.3	MS300	E 10088
1245	M	RV	RB		C	52	52	E		C		4	26.8	33.5	33.5	26.8	0	120.6		8.5	HS20	A 318099
1252	M	RV	SCC		C	93	93	I		P		3	12	12	12	0	0	36	30	11.9	CS750	A 318099
1279	S	RV	VS			77	77	N		P		3	6.1	9.1	6.1	0	0	21.3		11.3	HS25	A 190099
1303	M	RV	CS		S	53	53	H		C		5	10.1	13.4	13.4	13.4	10.1	60.4	30	11	HS20	A 108099
13067	S	RV	HC		S	73	73	A		P		1	8.5	0	0	0	0	8.5		11	HS20	A 61099
13073	M	RV	PM	RD	S	66	66	A	C	P	P	3	15.2	15.2	15.2	0	0	45.6		10.7	HS20	A 124099
13096	M	RV	RD		S	78	78	A		P		1	18.3	0	0	0	0	18.3		8.2	HS25	E 30097

13114	S	RV	SM		S	61	61	C		P		3	6.1	8.5	6.1	0	0	20.7		10.1	HS20	E 100098
13117	M	RV	RB		C	55	55	R		C		3	21.9	27.4	21.9	0	0	71.2	20	8.5	HS20	A 274099
13149	M	RV	CT		C	57	57	F		C		3	12.8	18.3	12.8	0	0	43.9		9.1	HS20	A 305099
13151	S	RV	HC		S	63	63	C		P		1	11.6	0	0	0	0	11.6		9.1	HS20	A 55099
13166	M	RV	TH	RD	S	35	77	C	C	C	C	3	16.8	76.2	18.3	0	0	111.3		7.3		A 29099
13181	M	RV	PO			59	59	J		P		3	15.2	15.2	15.2	0	0	45.6	-20	9.1	HS20	A 171099
13270	M	RV	SCC		S	96	96	C		P		1	12	0	0	0	0	12		16	CS750	
13271	S	RV	VS			77	77	A		P		1	10.7	0	0	0	0	10.7		12.5	HS25	A 122099
13360	S	RV	SM			79	79	A		P		1	11	0	0	0	0	11		11.3	MS23	A 107099
13370	M	RV	CT		C	58	58	H		C		8	25.3	35.1	35.1	35.1	25.3	260.9		9.1	HS20	A 178099
13371	M	RV	WG		C	61	83	C		C		3	42	46.7	34	0	0	122.7		9	MS230	E 13594
13384	S	RV	SC		S	94	94	A		P		3	8.5	10.1	8.5	0	0	27.1		12.8	CS750	A 236099
1340	M	RV	PM		S	72	72	N		P		3	18.3	18.3	18.3	0	0	54.9		8.2	HS20	E 20089
13445	S	RV	SC		S	93	93	A		P		3	11.6	11.6	11.6	0	0	34.8		9.2	CS750	A 103099
13473	M	RV	WG		C	87	88	A		C		3	30	38	30	0	0	98	20	9	MS300	A 41099
13486	M	RV	FC		S	70	70	F		P		3	10.7	24.4	13.7	0	0	48.8		9.1	HS20	A 84099
135	M	RV	FC			67	67	A		P		3	25.9	25.9	25.9	0	0	77.7		10.7	HS20	A 145099
13545	M	RV	WG		C	87	88	R		P		2	40	40	0	0	0	80	30	13	MS300	A 440099
13587	M	RV	PO			65	65	A		P		3	25.9	25.9	25.9	0	0	77.7	20	9.1	HS20	A 110099
13625	M	RV	FC		S	68	68	C		P		3	12.2	16.8	12.2	0	0	41.2		9.1	HS20	A 64099
13692	M	RV	WG		C	88	89	A		C		3	19	23	19	0	0	61	-20	9	MS300	E 10098
13694	S	RV	VS			75	75	A		P		3	6.1	7.6	6.1	0	0	19.8	-30	13.7	HS25	A 168099
13700	M	RV	WG		C	88	89	A		C		3	12	14	12	0	0	38		9	MS300	A 44099
13705	S	RV	VS		S	77	77	A		P		3	10.7	10.7	10.7	0	0	32.1		10.1	HS25	A 74099
13742	M	RV	WG		C	63	63	A		C		5	49.7	62.5	62.5	62.5	49.7	286.9		8.5	HS20	A 140099
13821	M	RV	PM		S	72	72	F		P		3	16.8	16.8	16.8	0	0	50.4	10	13.5	HS20	A 348099
13824	M	RV	RB		C	61	82	E		C		3	14.6	18.3	14.6	0	0	47.5		11	HS20	A 215099
13832	M	RV	RB	PG	S	61	61	E	H	C	C	3	8.5	24.4	8.5	0	0	41.4		9.1	HS20	A 71099
13838	M	RV	VF		S	75	76	R		P		3	12.2	36.6	12.2	0	0	61		11	HS25	A 236099
13852	M	RV	RB	HC	S	66	66	E	A	C	P	3	8.5	23.8	8.5	0	0	40.8		8.2	HS20	A 18099
13901	M	RV	SCC		C	95	95	C		P		2	14	14	0	0	0	28		11.9	CS750	A 255099
13977	S	RV	PGO		S	53	53	F		P		3	8.5	8.5	8.5	0	0	25.5		11	HS20	A 128099
1402	M	RV	RB		S	57	57	A		C		2	24.4	24.4	0	0	0	48.8		7.3	HS20	A 70099
1409	M	RV	PO		S	57	57	R		C		2	25.9	25.9	0	0	0	51.8		11	HS20	A 209099
1420	M	RV	WG		C	90	91	A		C		3	13	16	13	0	0	42		9	CS750	E 14595
1426	M	RV	PO		S	58	58	A		P		3	21.3	21.3	21.3	0	0	63.9		13.4	HS20	A 235099
1427	M	RV	PO		S	57	57	A		P		4	24.4	24.7	24.7	24.4	0	98.2		8.5	HS20	A 105099
1432	M	RV	RB		C	63	63	P		C		3	18.3	22.9	18.3	0	0	59.5		7.9	HS20	E 9088
149	M	RV	FC		S	70	70	A		P		2	27.4	27.4	0	0	0	54.8	-25	8.5	HS20	A 58099
1491	M	RV	CBC		C	91	92	A		P		3	26	32	20	0	0	78		9.2	CS750	A 27099
1493	M	RV	PO		S	61	61	E		P		3	16.8	21.3	16.8	0	0	54.9	30	7.9	HS20	A 102099
1504	S	RV	HC		S	60	60	A		P		1	6.1	0	0	0	0	6.1		13.7	HS20	A 188099
1517	M	RV	PO		S	59	59	A		P		3	20.7	23.8	20.7	0	0	65.2		9.1	HS20	A 182099
1536	M	RV	SCC		C	95	95	A		P		2	14	14	0	0	0	28		8.5	CS750	E 25096
1569	M	RV	SCC		C	91	91	A		P		3	10	12	10	0	0	32	15	11.9	CS750	A 173099
1588	M	RV	PM		S	64	64	N		P		3	15.2	16.8	15.2	0	0	47.2		9.1	HS20	
1606	M	RV	PO		C	65	65	A		C		3	30.5	30.5	30.5	0	0	91.5		9.1	HS20	A 145099

1614	M	RV	DBT		S	83	84	N		P		1	40	0	0	0	0	40	15	8.3	MS300	E 13091
1632	M	RV	RB		C	76	76	A		C		3	21.3	25.6	21.3	0	0	68.2		8.5	HS25	A 26099
1642	S	RV	VS		S	77	77	J		P		3	9.1	10.7	9.1	0	0	28.9	15	10.1	HS25	A 81099
1658	M	RV	WG		C	90	91	A		C		3	13	16	13	0	0	42		9	CS750	E 28395
1664	M	RV	FC		S	69	69	J		P		3	25.9	25.9	25.9	0	0	77.7		8.5	HS20	A 91099
1669	M	RV	FC		S	66	66	A		P		3	18.3	18.3	18.3	0	0	54.9		8.5	HS20	A 27099
167	M	RV	RB		C	65	65	E		C		3	22.3	28	22.3	0	0	72.6		7.3	HS20	A 38099
168	S	RV	HH		S	61	61	C		P		3	8.5	8.5	8.5	0	0	25.5	-30	7.3	HS20	E 5089
1694	M	RV	PM		S	68	68	C		P		3	13.7	16.8	13.7	0	0	44.2		8.2	HS20	E 100089
1741	M	RV	PO	CS	S	61	61	R	E	P	C	5	26.8	26.8	22.3	20.1	9.1	105.1		7.9	HS20	A 190099
1750	M	RV	PEF		S	61	61	N		P		3	10.7	12.2	10.7	0	0	33.6		8.2	HS20	A 28099
1766	M	RV	FC	SM	S	67	67	A	A	P	P	3	10.1	25.9	10.1	0	0	46.1		9.1	HS20	A 163099
1767	M	RV	RB		H	61	61	A		C		3	17.1	21.3	13.4	0	0	51.8		11	HS20	E 5094
1797	M	RV	RB		C	64	64	A		C		3	20.4	25.6	20.4	0	0	66.4		11	HS20	A 92099
181	M	RV	WG		C	84	85	A		C		3	14	18	14	0	0	46		9	MS300	A 301099
1810	M	RV	RB		S	55	55	A		C		1	18.3	0	0	0	0	18.3		11	HS20	A 646099
1843	M	RV	PO		S	64	64	A		P		3	19.8	19.8	19.8	0	0	59.4		7.9	HS20	E 10091
1877	S	RV	SM		S	88	88	A		P		1	6	0	0	0	0	6		8.2	MS225	A 147099
1886	M	RV	RM		C	81	82	H		P		3	12	14	12	0	0	38	-10	12.2	MS230	A 64085
189	M	RV	WG		C	29	74	R		C		4	21.3	91.4	61.6	21.3	0	195.6		8.5	HS25	A 146099
1894	M	RV	PO		S	62	62	A		C		3	18.3	24.4	18.3	0	0	61		7.9	HS20	A 85099
1916	M	RV	CT		C	57	57	J		C		3	12.8	18.3	12.8	0	0	43.9		8.2	HS20	A 99099
1938	M	RV	PM		S	71	71	A		P		3	16.8	16.8	16.8	0	0	50.4		10.1	HS20	A 160099
1949	S	RV	SM		S	87	87	N		P		3	8.5	8.5	8.5	0	0	25.5	15	10.1	MS230	A 630099
1980	M	RV	PO		S	62	62	R		P		4	30.5	30.5	30.5	30.5	0	122		9.1	HS20	A 470099
2008	M	RV	PO		S	59	59	J		C		2	19.8	19.8	0	0	0	39.6	20	7.9	HS20	E 50089
2010	M	RV	RB		C	56	56	I		C		3	16.8	22.9	16.8	0	0	56.5		11	HS20	E 150000
2027	M	RV	SCC		C	96	96	I		P		3	12.6	12.6	12.6	0	0	37.8		13.4	CS750	A 167099
2029	M	RV	RD	VS	S	75	76	A	A	P	C	3	10.7	13.7	10.7	0	0	35.1		8.5	HS25	A 9099
2047	M	RV	PM	PE	S	66	66	J	J	P	P	3	12.8	15.2	12.8	0	0	40.8		12.8	HS20	A 440099
2102	M	RV	PO		S	65	65	A		C		3	18.3	22.9	18.3	0	0	59.5		7.9	HS20	A 24099
2108	M	RV	WG		C	87	88	C		C		3	16	20	16	0	0	52		9	MS300	E 20089
211	M	RV	DBT		S	82	82	C		P		2	22	22	0	0	0	44		9.1	MS230	A 27099
2119	S	RV	SM		S	89	89	C		P		3	11	11	11	0	0	33		8.8	MS230	E 5097
2140	S	RV	PGO			59	59	F		P		3	8.5	8.5	8.5	0	0	25.5		13.1	HS20	A 27099
2143	M	RV	FC		S	70	70	J		P		3	27.4	27.4	27.4	0	0	82.2	15	10.7	HS20	A 790099
2144	M	RV	WG		C	90	91	A		C		3	15	22	15	0	0	52	-35	9	CS750	E 30088
2150	S	RV	HC			64	64	A		P		3	6.1	6.1	6.1	0	0	18.3		11	HS20	A 217099
2155	M	RV	FM		S	81	81	N		P		1	32	0	0	0	0	32		9.1	MS23	E 6895
2212	M	RV	PO		S	58	58	A		C		2	21.3	21.3	0	0	0	42.6		7.9	HS20	E 21095
223	M	RV	PO		C	63	63	A		C		3	34.1	34.1	34.1	0	0	102.3		7.9	HS20	A 77099
2233	M	RV	CT		C	55	55	E		C		3	20.1	27.4	20.1	0	0	67.6		8.5	HS20	A 227099
2235	M	RV	PO		S	57	57	H		C		3	18.3	18.3	18.3	0	0	54.9		7.9	HS20	A 106099
2236	M	RV	RB		H	55	55	C		C		3	12.2	18.3	12.2	0	0	42.7		7.3	HS20	A 98099
2240	M	RV	DBT		S	87	87	A		P		1	36	0	0	0	0	36		11.6	MS300	A 166099
2268	C	RV	MPB			91	91			P		2	3	3	0	0	0	10		9.1		A 53099
228	S	RV	SM		S	78	78	A		P		3	10	11	10	0	0	31		10.1	MS23	A 217099

2282	S	RV	HC			63	63	A		P		1	6.1	0	0	0	0	6.1		13.7	HS20	A 345099
229	S	RV	HCO		S	73	73	C		P		3	10.1	10.1	10.1	0	0	30.3	15	21	HS20	A 338099
2291	S	RV	SM		S	87	87	C		P		1	11	0	0	0	0	11		10	MS23	A 46099
2301	M	RV	FC		S	63	63	A		P		3	17.7	17.7	17.7	0	0	53.1	-25	7.9	HS20	A 275099
2302	M	RV	WG		C	80	81	C		C		3	10	20	10	0	0	40		9.8	MS230	A 86099
233	M	RV	PO		S	60	60	E		C		3	19.5	24.4	19.5	0	0	63.4		8.5	HS20	A 186099
2337	M	RV	PO		S	57	57	N		C		2	21.3	21.3	0	0	0	42.6		7.9	HS20	E 15097
2359	M	RV	CT		C	56	56	H		C		3	6.4	22.9	6.4	0	0	35.7	-25	10.7	HS20	E 100097
2370	C	RV	RPB	MPB		96	96	A		P		3	5	3	3	0	0	15.9		13.7		A 168099
2378	S	RV	HC		S	71	71	C		P		3	8.5	11.6	8.5	0	0	28.6		8.2	HS20	E 15095
2401	M	RV	PO		S	59	59	J		C		2	23.8	23.8	0	0	0	47.6		7.9	HS20	A 23099
2408	S	RV	PG		S	59	59	F		P		3	8.5	8.5	8.5	0	0	25.5	-15	8.2	HS20	E 15099
2430	M	RV	PO		S	63	63	E		C		3	24.1	24.4	24.1	0	0	72.6	30	9.1	HS20	A 273099
2431	M	RV	VF	RD	S	8	76	A	A	P	P	5	10.7	38.7	38.7	38.7	10.7	137.5		8.5	HS25	A 105099
248	S	RV	VS			75	75	A		P		1	6.1	0	0	0	0	6.1		13.7	HS25	A 168099
2487	M	RV	CX		C	62	62	R		C		3	16.8	21.3	16.8	0	0	54.9		11	HS20	A 305099
261	M	RV	FM		S	79	79	N		P		1	38	0	0	0	0	38	30	7.3	MS23	E 10089
272	M	RV	VF		S	74	74	J		P		4	36.6	36.6	36.6	36.6	0	146.4		8.5	HS25	A 273099
274	M	RV	FC			73	73	A		P		1	35.1	0	0	0	0	35.1		8.5	HS20	E 2495
277	M	RV	RD		S	75	75	A		P		3	15.2	15.2	15.2	0	0	45.6		9.8	HS25	A 34099
278	M	RV	RB		C	48	61	E		C		3	12.2	15.2	12.2	0	0	39.6	-25	13.4	HS20	A 430099
286	M	RV	PO		C	65	65	A		C		3	29	29	29	0	0	87		7.9	HS20	A 30099
288	M	RV	WG		C	85	86	A		C		3	19	22	19	0	0	60		9	MS300	A 45099
290	M	RV	CBC		C	91	92	A		P		3	27	32	27	0	0	86	15	9.2	CS750	E 100089
300	S	RV	HC			65	65	C		P		3	8.5	8.5	8.5	0	0	25.5	-15	7.3	HS20	
303	S	RV	PGO		S	56	56	Y		P		1	8.5	0	0	0	0	8.5		8.2	HS20	E 41899
304	M	RV	FC	HC	S	66	66	A	A	P	P	3	10.1	21.3	10.1	0	0	41.5		8.5	HS20	E 10088
309	M	RV	RG	SM	S	54	81	C	N	C	P	5	8	8	24.7	8	8	56.7		7.6	MS230	E 20089
310	M	RV	PJ		H	55	55	A		C		3	13.4	18.9	13.4	0	0	45.7	30	8.5	HS20	A 470099
313	M	RV	CBC		C	90	90	A		P		5	38	46	46	46	38	214		9	CS750	A 18099
315	M	RV	PO	FM	S	61	61	C	H	P	P	3	30.5	30.5	30.5	0	0	91.5		13.4	HS20	A 218099
334	M	RV	WG		C	89	89	N		C		3	17	22	17	0	0	56	35	9	MS300	E 6895
340	M	RV	PO		S	62	62	N		C		3	15.2	15.2	15.2	0	0	45.6		7.9	HS20	A 18099
358	M	RV	PO		S	58	58	N		P		2	19.8	19.8	0	0	0	39.6		7.9	HS20	A 18099
370	M	RV	SCC		C	93	93	C		P		3	9	12	9	0	0	30		9.2	CS750	A 494099
383	S	RV	PGO		S	58	58	C		P		3	8.5	8.5	8.5	0	0	25.5		9.1	HS20	A 46099
395	M	RV	CT		C	55	82	E		C		3	6.4	22.9	6.4	0	0	35.7		12	MS230	A 646099
429	C	RV	RPB			93	93	C		P		1	5	0	0	0	0	25.6	30	11		A 440099
436	M	RV	RB	PE	S	62	62	A	Y	C	P	3	12.8	18.3	12.8	0	0	43.9		8.2	HS20	A 304099
437	M	RV	PM			70	70	N		P		3	19.2	19.2	19.2	0	0	57.6		5.5	HS20	E 3096
444	S	RV	SM		S	79	79	F		P		3	11	11	11	0	0	33	-30	11.3	MS23	A 96099
457	M	RO	CT		C	59	59	A		C		3	17.1	23.8	17.1	0	0	58	31	11.6	HS20	A 209099
477	M	RV	WG		C	87	88	A		C		3	16	20	16	0	0	52	25	9	MS300	E 50089
493W	M	RV	CF		C	52	64	A		C		1	137					137		134	HS20	A 450196
506	M	RV	TH			13	13	A		C		1	27.4	0	0	0	0	27.4		5.8		
521	M	RV	SM		S	87	87	N		P		1	11	0	0	0	0	11	35	10	MS230	A 823099
527	S	RV	VS		S	75	75	A		P		3	6.1	6.1	6.1	0	0	18.3		13.7	HS25	A 512099

563	M	RV	SCC		C	97	61	I		P		3	10.4	12	10.4	0	0	33.6		11	CS750	A 129099
570	M	RV	WG		C	81	81	C		P		3	17	21	17	0	0	55	40	12.5	MS230	A 559099
589	M	RV	RB		C	64	64	R		C		2	26.5	26.5	0	0	0	53		8.5	HS20	A 630099
605	S	RV	SM		S	89	89	N		P		4	10	10	11	8	0	39	10	7.6	MS226	A 27099
611	M	RV	TH	RM	S	63	63	E	E	C	P	3	12.5	76.2	12.5	0	0	101.2		7.3	CS750	E 20095
622	S	RV	VS		S	75	75	A		P		3	10.7	10.7	10.7	0	0	32.1		13.7	HS25	A 512099
626	S	RV	VS		S	75	75	C		P		3	7.6	7.6	7.6	0	0	22.8	15	18.6	HS25	A 512099
6513	M	RV	SCC		C	95	95	I		P		3	12	12	12	0	0	36		9.5	CS750	A 46099
653	C	RV	SP			85	85					1	43					43	5	113	H20	A 738098
6548	M	RV	RB		S	56	56	C		C		1	21.3	0	0	0	0	21.3		7.3	HS20	E 15088
6565	M	RV	PO		S	58	58	H		C		3	27.4	27.4	27.4	0	0	82.2		11.6	HS20	A 209099
6581	M	RV	CBT		S	86	86	R		P		3	14.2	15.9	14.2	0	0	44.3	10	9	MS300	A 62099
6607	M	RV	CBC		S	95	95	I		P		3	20	26	20	0	0	66	25	9	CS750	
6615	M	RV	RB		C	60	60	A		C		5	27.4	34.4	34.4	34.4	27.4	158		11	HS20	A 319099
6639	M	RV	DBT		S	90	90	N		P		1	42	0	0	0	0	42	-20	8.3	MS300	E 10089
6651	S	RV	SM		S	83	83	A		P		1	8	0	0	0	0	8		12.5	MS23	A 318099
6733	M	RV	PO		S	56	56	N		C		4	24.4	24.4	24.4	24.4	0	97.6	-20	7.3	HS20	E 4097
6738	M	RV	RB		S	52	82	C		C		2	21.6	21.6	0	0	0	43.2	15	8	MS230	E 15095
6777	S	IC	PGO		S	57	57	A		P		3	8.5	8.5	8.5	0	0	25.5	-45	8.2	HS20	A 18099
6809	M	RV	FC		S	72	72	A		P		1	32	0	0	0	0	32		9.1	HS20	A 40099
690	S	RV	VS		S	76	76	A		P		4	10.7	10.7	10.7	10.7	0	42.8	-30	10	HS25	A 217099
698	M	RV	PO		S	65	65	A		C		2	28.7	28.7	0	0	0	57.4	40	11	HS20	A 175099
6985E	M	RV	DBT		S	85	86	R		P		1	420					420	-20	131	MS300	A 592098
6985W	M	RV	CT		C	55	55	R		C		3	122	183	122			427	-20	140	HS20	A 592098
6990	M	RV	CBT		C	86	86	C		P		3	16	32	23	0	0	71		9.4	MS300	E 50097
70009	M	RV	CA		C	53	53	H		C		1	73.8	0	0	0	0	73.8		8.5	HS20	A 18099
70022	M	RV	FC		S	73	73	E		P		2	24.4	24.4	0	0	0	48.8		13.2	HS20	A 187099
70034	S	RV	PGO		S	54	54	C		P		2	6.1	6.1	0	0	0	12.2		9.1	HS20	A 55099
70063N	M	RV	CF		S	36	81	A		C		1	18.3	0	0	0	0	18.3		16.8	MS230	A 4206099
70116	S	RV	HC		S	70	70	A		P		3	8.5	8.5	8.5	0	0	25.5		10	HS20	A 91099
70156	M	RV	RB		H	55	55	N		C		3	16.5	21.9	16.5	0	0	54.9	30	7.3	HS20	A 48099
70241	M	RV	TH			50	55	R		C		6	45.7	61	61	61	45.7	335.3		7.3		A 122099
70247	M	RV	DT	RB	C	54	54	Z	A	C	C	5	18.3	50.3	70.4	50.3	18.3	207.6		8.1	HS20	E 20096
70252	M	RV	SC		S	93	93	A		C		3	9.1	12.2	9.1	0	0	30.4		11	CS750	A 255099
70257	S	RV	SMO		P	93	93	I		P		3	11	11	11	0	0	33	30	12.4	CS750	
70277	M	RV	FC		S	22	73	F		P		4	13.7	32	32	32	0	109.7	-24	8.8	HS20	A 223099
70316	S	RV	SM		S	79	79	A		P		3	6	8	6	0	0	20		11.3	MS23	A 109099
70318	M	RV	WG		C	83	85	E		C		5	61	75	75	75	61	347	-10	11	MS300	A 133099
70341	S	RV	SC		S	92	92	N		P		3	8.5	8.5	8.5	0	0	25.5		9.2	CS750	A 93099
70495	S	RV	SM			80	80	A		P		1	11	0	0	0	0	11		13.7	MS23	A 122099
70509	M	RV	PO		S	59	76	A		P		3	38.7	41.8	38.7	0	0	119.2		9.8	HS25	E 9095
7055	S	RV	HC		S	71	71	F		P		6	10.1	10.1	10.1	10.1	10.1	60.6	-15	11	HS20	A 170099
70566	M	RV	PO		S	59	59	A		P		2	25.9	25.9	0	0	0	51.8		9.1	HS20	A 341099
70577	M	RV	FM		S	79	80	N		P		1	38	0	0	0	0	38		9.1	MS23	E 12494
70580	M	RV	DT	HC		13	69	J	F	P	P	11	8.5	8.5	38.1	38.1	8.5	195.1		8.2	HS20	A 185099
70594	M	RV	RB		C	54	54	E		C		3	26.8	33.5	26.8	0	0	87.1		11	HS20	A 137099
70613	S	RV	SM		S	81	81	A		P		1	11	0	0	0	0	11		12.5	MS230	A 137099

70626	M	RO	PM			65	65	J		P		5	16.8	16.8	16.8	16.8	15.2	82.4		11	HS20	A 156099
7064	M	RV	DBT		S	82	82	N		P		3	12	20	12	0	0	44		9.1	MS230	A 31099
70770	S	RV	VS		S	78	78	A		P		1	10.7	0	0	0	0	10.7		10.1	HS25	A 33099
70789	M	RV	WG		C	85	86	A		C		6	49	63	84	84	70	434		9	MS230	A 265099
7086	M	RV	LF		S	77	77	N		P		1	38.1	0	0	0	0	38.1		7.3	HS25	E 4096
70922	S	RV	SM		S	79	79	A		P		3	10	10	10	0	0	30		11.3	MS23	A 109099
70935	M	RV	RB		C	55	63	R		C		3	17.1	21.3	17.1	0	0	55.5		9.7	HS20	A 137099
70997	S	RV	PGO		S	59	59	C		P		3	6.1	6.1	6.1	0	0	18.3	-15	9.1	HS20	A 48099
710	M	RV	PO		S	63	63	N		C		2	27.4	27.4	0	0	0	54.8	-30	9.1	HS20	A 103099
71004	M	RV	CBT		C	89	90	A		P		3	18	24	18	0	0	60	10	9	MS300	E 40091
71006	S	RV	HC		S	68	68	A		P		3	6.1	8.5	6.1	0	0	20.7		10.1	HS20	A 149099
7101	M	RV	RD		S	75	75	A		P		3	19.8	19.8	19.8	0	0	59.4		8.5	HS25	A 30099
71019	M	RV	RB		S	57	57	E		C		3	15.2	18.3	21.3	0	0	54.8		7.9	HS20	A 81099
71048	S	RV	SM		S	87	87	N		P		1	8	0	0	0	0	8		8.8	MS23	A 142099
71054	M	RV	PO		S	59	59	N		P		1	30.5	0	0	0	0	30.5		7.3	HS20	A 124099
71069	M	RV	DBT		S	86	86	N		P		1	40	0	0	0	0	40		9.5	MS300	E 20000
7107	S	RV	PGO		S	60	60	C		P		3	6.1	8.5	6.1	0	0	20.7		9.1	HS20	A 78099
7108	M	RV	SC		S	95	95	N		P		3	12.8	12.8	12.8	0	0	38.4		9.2	CS750	E 2595
71081	M	RV	FC		S	75	75	N		P		2	26.2	26.2	0	0	0	52.4		11	HS25	A 30099
7109	M	RV	RB	PG	S	55	79	J	C	C	P	5	6.1	8.5	18.3	8.5	6.1	47.5		7.3	HS20	E 15096
71106	M	RV	RG	VS	S	61	78	A	A	C	P	5	9.1	9.1	24.4	9.1	9.1	60.8		11	HS20	A 179099
71116	M	RV	WG		C	30	78	E		C		5	76.5	77.1	77.1	76.5	12.2	319.4		9.8	HS25	A 108099
71145	M	RV	TH		S	57	57	J		C		5	61	61	61	61	61	305		7.3		A 99099
71246	M	RV	PM			72	72	A		P		3	16.8	16.8	16.8	0	0	50.4		8.2	HS20	A 52099
71265	M	RV	PM			72	72	A		P		3	15.2	15.2	15.2	0	0	45.6		10.1	HS20	A 171099
71291	M	RV	WG		C	72	72	J		C		5	48.8	61	61	61	48.8	280.6		8.5	HS20	A 55099
713	M	RV	FC	HC	S	68	68	A	A	P	P	3	6.1	25.9	6.1	0	0	38.1		9.1	HS20	A 128099
71313	M	RV	PO		S	60	60	E		C		5	22.9	30.5	30.5	30.5	29	143.4	10	7.9	HS20	A 72099
71315	M	RV	TH		S	56	56	E		C		4	76.2	61	61	61	0	259.2		7.3		A 137099
71316	M	RV	RB		C	62	84	E		C		3	26.2	32.9	26.2	0	0	85.3		13	MS230	A 72099
71340E	M	RO	WG		C	82	83	C		C		3	24	28	24	0	0	76	-54	12.5	MS300	A 520099
71340W	M	RO	WG		C	83	84	C		C		3	24	28	24	0	0	76	-54	12.5	MS300	A 520099
71344E	M	RV	SMC		C	84	84	C		P		3	11	11	11	0	0	33		13.3	MS300	A 520099
71344W	M	RV	SCC		C	93	93	A		P		3	12	10	12	0	0	34		13.2	CS750	A 520099
71352	M	RO	WG		S	86	87	A		C		1	22	0	0	0	0	22	-13	14.7	MS300	A 91099
71429	M	RV	RM		S	81	82	E		P		3	25	25	25	0	0	75	-20	10.9	MS230	A 132099
7146	M	RV	SMC		S	85	85	A		P		3	6	10	6	0	0	22		13.3	MS300	A 424099
7150	M	RV	PJ		S	55	55	A		P		25	18.3	18.3	18.3	18.3	18.3	457.2		9.1	HS20	A 78099
71504	M	RV	PO		S	58	58	N		C		2	18.3	18.3	0	0	0	36.6		7.9	HS20	A 81099
71593	S	RV	SC		S	68	68	N		P		1	10	0	0	0	0	10		10.4	CS750	A 149099
71613	S	RV	VS		S	78	78	C		P		3	6.1	7.9	6.1	0	0	20.1		10.2	HS25	A 229099
7168	M	RV	PO		S	57	57	N		P		2	21.3	21.3	0	0	0	42.6		8	HS20	A 10099
71683	S	RV	SM			79	79	A		P		3	11	11	11	0	0	33	15	12.5	MS23	A 223099
71690	M	RV	SCC		C	95	95	I		P		3	12	12	12	0	0	36		12	CS750	A 196099
71697	M	RV	DBT		S	86	86	N		P		1	38	0	0	0	0	38	15	11.6	MS300	A 23087
71734	C	RV	RPB			89	89	C		P		1	7.5	0	0	0	0	14		11.8		A 180099
71746	M	RV	SCC		C	91	91	A		P		3	11	11	11	0	0	33	-15	12	CS750	A 142099

71801	S	RV	SM		S	84	84	A		P		3	10	10	10	0	0	30		11.3	MS23	A 109099
71821	M	RV	CBT		C	89	90	A		P		3	23	26	23	0	0	72		9	CS750	A 32099
71827	N	RO				16	92															
71961	M	RV	LF		S	77	77	C		P		1	38.1	0	0	0	0	38.1	20	7.3	HS25	E 3086
72007E	M	RV	DBT		S	89	90	A		P		1	40	0	0	0	0	40		13.2	CS750	A 537099
72007W	M	RV	WG		C	54	81	E		C		3	12.2	18.6	12.2	0	0	43		12.5	MS230	A 537099
72091	S	RV	SM		S	80	80	A		P		1	6	0	0	0	0	6		13.7	MS23	A 72099
72094	M	RV	RG		H	59	60	R		C		3	42.7	39.6	39.6	0	0	121.9		9.1	HS20	A 137099
72100	C	IC	MPX			94	97	A		P		3	2.4	2.4	2.4	0	0	125.6	45	28.9		A 417099
72103	M	RV	WG		C	88	89	A		C		3	35	45	35	0	0	115		11	MS400	E 30096
72123W	S	RV	PGO		S	60	60	F		P		1	8.5	0	0	0	0	8.5		14.6	HS20	A 618099
72124	S	RV	PG		S	55	55	A		P		1	6.1	0	0	0	0	6.1		16	HS20	A 458099
72128	M	RV	SCC		C	96	96	I		P		3	8	12	8	0	0	28	-15	11.9	CS750	A 221099
72168	M	RV	RD		S	74	74	A		P		4	16.8	16.8	16.8	16.8	0	67.2		9.1	HS25	A 22099
72186	M	RV	PM			65	65	A		P		3	13.7	15.2	13.7	0	0	42.6	-20	11	HS20	A 196099
72242	S	RV	HCO			71	71	F		P		3	10.1	10.1	10.1	0	0	30.3	-15	13.7	HS20	A 113099
72279	M	RV	RD		S	77	77	R		P		3	15.2	15.2	15.2	0	0	45.6		9.8	HS25	A 104099
72325	S	RV	SM		S	82	82	A		P		1	8	0	0	0	0	8		10	MS23	A 56099
72343	S	RV	SM		S	90	90	N		P		1	11	0	0	0	0	11		10	MS230	A 33099
72345	M	RV	RD		S	75	75	A		P		4	21.3	21.3	21.3	21.3	0	85.2		9.8	HS25	E 5094
72400	S	RV	SM		S	85	85	A		P		3	11	11	11	0	0	33	-15	10	MS23	A 56099
7244	S	RV	HC		S	69	69	J		P		3	10.1	10.1	10.1	0	0	30.3		11	HS20	A 96099
72467	M	RV	PO		C	63	63	I		C		5	34.7	38.1	38.1	38.1	34.7	183.7	15	7.9	HS20	A 41099
72517	S	RV	SM		S	79	79	A		P		1	11	0	0	0	0	11		12.4	MS23	A 217099
72533N	M	RV	CBC		C	91	92	A		P		3	18	30	24	0	0	72	10	12.4	CS750	A 578099
72533S	M	RV	CT		C	64	64	A		C		3	24.4	33.5	24.4	0	0	82.3		13.4	HS20	A 578099
72535N	M	IC	CBC		C	91	92	A		P		2	23	23	0	0	0	46	-42	12.4	CS750	A 578099
72535S	M	IC	PJ			58	58	A		C		2	18.3	18.3	0	0	0	36.6	-45	13.4	HS20	A 578099
72545	M	RV	SMC		C	90	90	A		P		3	11	11	11	0	0	33		13.3	CS750	A 622099
72548	M	RV	SMC		C	90	90	A		P		3	10	11	10	0	0	31	-15	13.2	CS750	A 622099
72551N	M	RV	PO			59	59	E		C		1	26.5	0	0	0	0	26.5		11.6	HS20	A 702099
72551S	M	RV	PO			59	59	E		C		1	26.5	0	0	0	0	26.5		11.6	HS20	A 702099
7256	M	RV	PO		S	68	68	C		P		7	37.2	40.2	40.2	40.2	37.2	275.5		7.4	HS20	A 23099
72631	M	RV	FC			70	70	C		P		3	22.9	24.4	22.9	0	0	70.2	10	8.5	HS20	A 76099
72640	M	RV	FC			71	71	J		P		1	35.1	0	0	0	0	35.1		8.5	HS20	A 15099
72705	M	GS	WG		C	72	72	I		C		3	30.5	51.8	30.5	0	0	112.8		16.5	HS20	
72810E	M	RV	RM		S	80	81	E		P		1	28	0	0	0	0	28	-30	12.5	MS230	A 772099
72810W	M	RV	RM		S	80	81	E		P		1	28	0	0	0	0	28	-30	12.5	MS230	A 772099
72816	S	RV	PGO		S	59	59	C		P		3	8.5	8.5	8.5	0	0	25.5		13.7	HS20	A 230099
72819	M	RO	RD		S	77	77	H		P		3	15.2	15.2	15.2	0	0	45.6	-12	13.4	HS25	A 424099
7294	S	RV	HC		S	63	63	H		P		3	6.1	8.5	6.1	0	0	20.7		10.1	HS20	A 25099
7295	M	RV	PQ	HC	S	63	63	A	N	P	P	3	8.5	21.3	8.5	0	0	38.3		7.9	HS20	A 23099
7300	S	RV	HC			66	66	A		P		1	6.1	0	0	0	0	6.1		13.7	HS20	A 238099
73049	S	RV	HC			62	62	A		P		3	6.1	6.1	6.1	0	0	18.3	-30	11	HS20	A 30099
73052W	S	IC	VS		S	77	77	A		P		1	10.7	0	0	0	0	10.7	15	13.7	HS25	A 1145099
73069	M	RV	DBT		C	81	82	H		P		2	26	14	0	0	0	40	15	9.5	MS350	
73077	M	RV	WG		C	82	83	C		C		3	52	66	52	0	0	170	-20	10	MS230	A 142099

73086	S	RV	HC		S	66	66	A		P		1	6.1	0	0	0	0	6.1		11	HS20	A 137099
73087	S	RV	PG		S	55	55	N		P		1	6.1	0	0	0	0	6.1		6.4	HS20	E 2597
73136	M	RV	WG		C	42	82	C		C		4	20	25	25	20	0	90		11	MS350	A 72099
73137	M	RO	SCC		C	95	95	J		P		6	9.1	10.3	10.3	11.8	10.5	62.3	37	11	CS750	A 72099
73184	M	RV	FM		S	78	79	H		P		1	34	0	0	0	0	34	30	12.2	MS23	A 15099
7324	S	RV	VS		S	77	77	A		P		1	6.1	0	0	0	0	6.1		16.2	HS25	A 318099
73274	M	RV	FM		S	78	79	H		P		1	34	0	0	0	0	34	25	10.7	MS23	A 72099
73275	M	RV	WG		C	50	79	R		C		5	28.2	61.6	76.8	61.6	28.2	256.4		12.2	MS23	A 363099
73277	M	RV	VF		S	75	75	J		P		5	33.5	33.5	33.5	33.5	33.5	167.5	20	8.5	HS25	A 142099
7329	M	RV	WG		C	95	95	I		C		5	18	39	39.6	39	18	153.6		8	CS750	
73310	M	RV	SCC		C	95	95	I		P		3	8	12	8	0	0	28	15	9.5	CS750	A 89099
73319	M	RV	PM			71	71	A		P		2	15.2	9.1	0	0	0	24.3		10.1	HS20	A 72099
73328	S	RV	HC		S	73	73	Y		P		2	10.1	10.1	0	0	0	20.2	-15	10.1	HS20	A 72099
73389	M	RV	DBT		S	84	85	H		P		1	32	0	0	0	0	32		10.1	MS300	A 190099
73407	M	RV	RG		H	60	60	E		C		3	45.1	49.4	45.1	0	0	139.6		9.1	HS20	A 38099
73410	M	RV	RB		C	61	61	E		C		3	18.6	21.9	18.6	0	0	59.1		11	HS20	A 22099
73420	M	RV	FC		S	72	72	J		P		1	29	0	0	0	0	29	15	8.8	HS20	A 14099
73425	M	RV	RB		S	59	59	E		C		2	19.8	19.8	0	0	0	39.6		11	HS20	A 95099
73426	M	RV	RB			59	59	E		C		1	30.5	0	0	0	0	30.5		11	HS20	A 81099
73429	M	RV	WG		H	67	67	E		C		3	34.7	51.8	27.7	0	0	114.2		9.1	HS20	A 75099
73442	M	RV	SMC		C	86	86	R		P		3	8	11	8	0	0	27		12.1	MS300	A 155099
73485	S	RV	HC		S	72	72	E		P		5	10.1	10.1	10.1	10.1	10.1	50.5	15	13.7	HS20	A 86099
73496N	P	RV				94	94															A 749098
73496S	M	RV	DBC		S	91	92	A		P		1	42	0	0	0	0	42	5	13.2	CS750	A 797099
73523	S	RV	SM			81	81	A		P		3	11	11	11	0	0	33	-23	10.1	MS23	A 99099
73527	M	RO	SCC		C	98	98	I	A	C	C	3	14	14.3	14	0	0	42.3	25	13.4	HS20	A 797099
73561	C	RV	RPB			56	97			P		1	4	0	0	0	0	16.5		13.7	HS20	A 283099
73595	C	IC	AP			83	83					1	81					650		130	MS300	A 275098
73621	M	RO	PM			65	65	A		P		3	12.2	13.7	12.2	0	0	38.1	-6	13.7	HS20	A 230099
73636	M	RV	RB		S	60	60	C		C		3	10.7	13.7	10.7	0	0	35.1		11.6	HS20	A 112099
73637	M	RV	DBT		S	87	88	A		P		1	42	0	0	0	0	42	-25	13.1	MS300	A 226099
73640	M	RO	CS			51	66	R		C		5	7.9	7.9	7.9	7.9	7.9	39.5	45	13.4	HS20	A 230099
73657	S	RV	HC			67	67	A		P		3	8.5	10.1	8.5	0	0	27.1		12.8	HS20	A 46099
73665	S	RV	HHO		S	61	61	C		P		2	6.1	6.1	0	0	0	12.2		11	HS20	A 443099
73694N	M	RV	WG		C	86	88	A		C		4	70	90	90	70	0	320		10.5	MS300	A 835099
73694S	M	RV	WG		C	86	88	A		C		4	70	90	90	70	0	320		11.7	MS300	A 835099
7373	M	RV	FC		S	65	65	A		P		3	10.7	21.3	10.7	0	0	42.7		8.5	HS20	E 8088
73757	M	RV	FM		S	81	81	A		P		3	27	33.5	27	0	0	87.5		7.5	MS230	E 4096
7377	M	RV	FC		S	72	72	A		P		1	24.4	0	0	0	0	24.4		9.1	HS20	E 30096
73772	S	RV	HH		S	62	62	N		P		3	8.5	8.5	8.5	0	0	25.5		9.1	HS20	A 162099
73777	S	RV	SC		S	95	95	N		P		1	8.5	0	0	0	0	8.5		12.7	CS750	A 348099
73779	M	RV	VF		S	75	75	J		P		4	15.2	30.5	30.5	15.2	0	91.4		11	HS25	A 348099
73803E	M	RO	WG		C	81	82	C		C		4	23	28	28	20	0	99	-45	12.2	MS23	A 558396
73803W	M	RO	WG		C	81	82	C		C		4	23	28	28	20	0	99	-45	12.2	MS23	A 558396
73809E	M	RV	WG		C	86	87	A		C		4	44	54	54	44	0	196		12.5	MS350	A 658099
73810W	M	RV	VF		S	73	74	E		P		6	24.4	38.3	38.3	30.8	30.8	187		12.2	HS25	A 460099
73817	S	RV	SM		S	87	87	N		P		2	11	11	0	0	0	22	30	7.7	MS23	E 3198

73819	M	GS	CF		C	51	80	A		C		1	9.1	0	0	0	0	9.1		11.3	HS25	A 646099
7382	S	RV	PG		S	54	54	F		P		1	8.5	0	0	0	0	8.5	-45	7.3	HS20	E 10098
73823E	S	IC	VS			77	77	E		P		4	7.6	10.7	10.7	7.6	0	36.6	-30	13.7	HS25	A 605099
73825E	S	IC	VS		S	78	78	E		P		3	9.1	10.7	9.1	0	0	28.9	30	13.7	HS25	A 560099
73825W	M	IC	SMC		C	83	84	E		P		3	10	11	10	0	0	31	10	13.2	MS300	A 560099
73836	M	RV	RB		C	54	73	E		C		3	26.8	33.5	26.8	0	0	87.1	29	12.8	HS20	A 390099
73837	M	RV	VF		S	76	77	R		P		2	36.6	36.6	0	0	0	73.2	20	13.4	HS25	A 390099
73877	M	RV	WG		C	91	92	A		P		2	70	70	0	0	0	140	-10	11.8	CS750	A 106099
73880	N	GS	CS			51	51														HS20	
73919E	M	RV	RB		S	55	55	E		C		6	12.2	25	31.1	31.1	25	136.6		8.5	HS20	A 459099
73920W	M	RV	RD		S	76	76	C		P		3	19.8	21.3	19.5	0	0	60.6	35	13.4	HS25	A 360099
73921	M	RV	RM		S	80	80	A		P		3	12	12	12	0	0	36	-30	13.1	MS230	A 360099
73922	M	RV	DT	WG	S	62	62	A	A	C	C	7	30.5	48.8	61	48.8	30.5	341.4		8.5	HS20	A 53099
73923E	M	IC	SCC		C	94	94	I		P		3	14	14	14	0	0	42	30	12.4	CS750	A 890099
73923W	M	IC	SCC		C	96	96	I		P		3	14	14	14	0	0	42	30	12.4	CS750	A 890099
73924S	M	IC	SMC		S	87	87	A		P		4	10	10	10	10	0	40		13.3	MS300	A 417099
73949	M	RV	SS	RB	H	60	60	R	E	C	C	11	23.8	21.9	137.2	274.3	137.2	723.6		8.2	HS20	A 234099
73973	M	RV	SMC		S	85	85	A		P		1	10	0	0	0	0	10	6	11.6	MS300	A 363099
7398	M	RV	WG		C	79	80	H		P		4	50	65	65	50	0	230	10	9.1	MS23	A 189099
740	M	RV	CT		C	63	63	A		C		3	16.2	22.6	16.2	0	0	55		7.9	HS20	E 15089
7401	M	RV	OM		C	80	81	C		P		3	30.8	39.9	30.8	0	0	101.5		9.1	MS230	A 39099
74031N	M	RV	WG		C	85	86	A		C		4	32	38	38	32	0	140	30	12.5	MS300	A 1751099
74031S	M	RV	WG		C	87	87	A		C		4	27.4	36.6	36.6	27.4	0	128	25	16.5	MS300	A 1751099
74035	M	RV	DBT		C	81	82	H		P		2	28	22	0	0	0	50	-10	13.1	MS230	A 470099
74106	C	IC	RPB			94	94	A		P		2	4.5	4.5	0	0	0	29.3	-10	8.3		A 205099
74116	M	RV	CT		S	54	54	A		C		1	27.4	0	0	0	0	27.4		11	HS20	E 25096
74137	M	IC	CS			58	75	J		C		4	8.5	8.5	8.5	8.5	0	34		13.7	HS20	A 218099
74138	M	RV	DBT		S	82	83	A		P		1	40	0	0	0	0	40		9.5	MS300	E 20089
74194	S	RV	SM		S	80	80	A		P		3	10	11	10	0	0	31		10.1	MS23	A 133099
74195	M	RO	RB		S	56	56	A		C		5	18.6	18.6	21.7	18.6	15.5	93	45	9.1	HS20	E 3096
74217	M	RO	CS		C	54	54	E		C		5	9.4	12.5	12.5	12.5	9.4	56.3	45	9.1	HS20	A 163099
74222	M	RV	RB		C	55	55	R		C		3	19.5	24.4	19.5	0	0	63.4		8.5	HS20	A 153099
74227	M	RV	WG		C	74	74	H		C		5	89.9	111.3	111.3	111.3	89.9	513.7		8.5	HS20	A 69099
74228	M	RV	WG		C	72	72	E		C		5	33.5	48.8	61	48.8	33.5	225.6	-20	9.8	HS20	A 225099
74229	M	RV	WG		C	76	77	H		C		5	45.7	56.4	56.4	56.4	45.7	260.6		9.8	HS55	A 56099
74231	M	RV	WG		C	81	83	H		C		3	74	92	74	0	0	240	23	9	MS230	A 48099
74232	M	RV	WG		C	66	66	J		C		5	43.3	57.3	57.3	57.3	43.3	258.5		8.5	HS20	A 112099
74233	M	RV	WG		C	67	67	E		C		5	49.7	62.5	62.5	62.5	49.7	286.9		8.5	HS20	A 163099
74236	M	RV	WG		C	70	70	J		C		5	59.4	73.2	73.2	73.2	59.4	338.4		7.9	HS20	A 94099
7425	M	RV	DBT		C	83	84	H		P		2	30	30	0	0	0	60		10.1	MS300	E 120088
74282W	M	RV	SCC		C	94	94	I		P		3	12	14	12	0	0	38	-20	13.4	CS750	A 658099
74307	M	RV	SMC		C	84	84	A		P		3	11	11	11	0	0	33		13.3	MS300	A 415099
74352E	M	RO	PM		S	68	68	R		P		6	17.7	17.7	17.7	17.7	17.7	106.1	-20	15.5	HS20	A 1427099
74352W	M	RO	CS		S	56	57	R		C		9	10.1	13.1	10.1	13.1	10.1	105.9	-20	15.2	HS20	A 1427099
74353E	M	RV	CT		C	70	70	R		C		4	29.3	39.6	39.6	29.3	0	137.8	-30	15.2	HS20	A 1427099
74353W	M	RV	CT		C	58	58	R		C		4	29.3	39.6	39.6	29.3	0	137.8	-30	15.2	HS20	A 1427099
74354E	M	RV	FC		C	70	70	A		P		3	22.9	36.6	22.9	0	0	82.4		15.2	HS20	A 1557099

74354W	M	RV	CA		C	57	57	E		C		7	6	6	36.6	6	6	72.6		15.2	H20	A 1557099
74355E	M	RV	PO		C	66	66	R		P		3	29.3	31.1	29.3	0	0	89.7		15.2	HS20	A 1594099
74355W	M	RV	CT		C	57	57	R		C		4	17.7	25	25	17.7	0	85.4	35	15.2	HS20	A 1594099
74358	M	RV	RG		C	55	55	C		C		3	30.5	40.2	30.5	0	0	101.2		8.5	HS20	A 38099
74381	M	RV	DT	RB	S	57	64	R	E	C	C	8	21.3	48.8	61	48.8	21.3	320		8.5	HS20	A 391099
74397	S	RV	SM		S	79	79	A		P		3	6	10	6	0	0	22		13.8	MS23	A 240099
74426	M	RV	CT		C	56	56	R		C		3	16.2	22.6	16.2	0	0	55		8.5	HS20	A 83099
74440	M	RV	DT	RG	S	58	76	R	E	C	C	6	21.3	33.5	61	61	33.5	271.3		8.5	HS20	A 144099
74447	M	IC	CBT		S	84	85	H		P		2	15.1	15.1	0	0	0	30.2		11.8	MS300	A 238099
74448	M	IC	SCC		C	93	94	I		P		3	13	14.3	13	0	0	40.3	-20	9.5	CS750	A 61099
74452	M	RV	DT	RB	S	57	91	H	H	C	C	8	18.3	48.8	61	48.8	18.3	353.6		9.8	HS20	A 970099
74455	M	RV	RB		S	56	56	J		C		3	15.2	18.3	24.4	0	0	57.9		13.4	HS20	A 188099
74458S	M	RV	CT		C	57	57	H		C		4	17.7	25	25	17.7	0	85.4		15.2	HS20	A 1751099
74462	S	RV	SC		S	95	95	N		P		1	12	0	0	0	0	12		12	CS750	A 29099
74540	M	GS	PO			57	57	C		C		3	18.3	24.4	18.3	0	0	61		4.9	HS20	
74546	M	RV	DBT		S	83	84	N		P		3	16	16	16	0	0	48		8.6	MS300	A 18099
74563	S	RV	HCO		S	56	91	C		P		3	8.5	8.5	8.5	0	0	25.5		11	HS20	A 160099
74596	M	GS	FR		C	66	66	J		C		3	29.6	11	29.6	0	0	70.2	-9	9.1	HS20	E 10088
74599E	M	GS	HC			65	65	R		P		3	10	10.1	10	0	0	30.1		12.8	HS20	A 1594099
74599W	M	GS	HC		S	56	56	R		P		3	10	10.1	10	0	0	30.1		12.8	HS20	A 1594099
746	M	RV	DBT		S	88	88	N		P		1	40	0	0	0	0	40		7.6	MS300	E 2096
74600E	S	GS	SM		S	57	83	R		P		3	8.5	8.5	8.5	0	0	25.5	-30	13.7	MS23	A 1557099
74600W	M	GS	PM			71	71	R		P		3	9.1	13.7	10.7	0	0	33.5	-30	12.8	HS20	A 1557099
74602E	M	GS	PM			70	70	A		P		3	10.7	12.2	10.7	0	0	33.6	-30	12.8	HS20	A 1557099
7461	M	RV	PO		S	60	60	J		C		5	44.5	44.5	45.1	45.1	45.1	224.3		9.1	HS20	A 131099
74642	M	RV	PJ			61	0	N		P		3	6.1	9.1	6.1	0	0	21.3		7.3	HS20	E 1596
74653	M	RV	CT		H	57	57	H		C		8	25.3	35.1	35.1	35.1	25.3	260.9		9.1	HS20	A 256099
74678	M	RV	CT		C	58	58	E		C		3	19.5	24.4	19.5	0	0	63.4	16	11	HS20	A 255099
74679	M	RV	PO		S	58	60	E		C		2	23.3	23.3	0	0	0	46.6		10.4	HS20	A 255099
747	M	RV	PM	PE	S	64	64	N	N	P		3	12.8	15.2	12.8	0	0	40.8		9.1	HS20	A 46099
74710	M	RV	FC		S	70	70	J		P		2	22.9	22.9	0	0	0	45.8		10.4	HS20	A 61099
74739	S	RO	HC		S	64	64	A		P		6	6.1	8.5	11.6	8.5	8.5	51.8	-45	9.4	HS20	A 61099
7475	M	RV	RB		S	57	65	E		C		2	15.2	15.2	0	0	0	30.4		11	HS20	A 175099
74832	S	IC	VS			78	78	A		P		3	9.1	9.1	9.1	0	0	27.3	15	11.7	HS25	A 256099
7484	M	RV	PJ		S	61	61	C		P		3	9.1	10.7	9.1	0	0	28.9		8.2	HS20	A 62099
7487	M	RV	VF	RD	S	56	77	H	H	P	P	4	16.8	30.8	30.8	10.7	0	89.1		9.1	HS25	A 108099
7492	M	RV	FC		S	72	72	J		P		3	33.5	33.5	33.5	0	0	100.5	-15	8.8	HS20	A 173099
7493	M	RV	PM	PE		65	65	N	N	P	P	3	9.1	16.8	9.1	0	0	35	-30	7.3	HS20	A 14099
74953	M	RV	SMC		C	88	88	A		P		2	10	10	0	0	0	20	30	13.3	MS300	A 230099
74954	M	RV	PO			59	59	E		C		2	18.9	18.9	0	0	0	37.8		11	HS20	A 235099
74955	S	RV	SM		S	58	84	A		P		1	6	0	0	0	0	6		13.7	MS23	A 235099
74969	M	RV	PO		S	60	60	J		C		3	24.1	29.9	24.1	0	0	78.1		7.9	HS20	A 91099
74978E	M	GS	PO		S	60	60	A		C		4	16.2	16.2	21.3	19.2	0	72.9	19	13.4	HS20	A 822099
74978W	M	GS	VF		S	75	75	A		P		3	32	21.3	19.8	0	0	73.1	20	12.2	HS25	A 822099
75014	M	RV	DT	WG	H	64	88	E	E	C	C	6	24.4	37.2	87.2	63.4	76.8	343.8		17.1	HS20	A 822099
75016	M	RV	PO	FM	S	58	81	E	E	C	C	2	33.8	33.8	0	0	0	67.6		12.8	HS20	A 234099
75021	M	RO	PO			60	60	H		C		3	19.8	19.8	19.8	0	0	59.4		11	HS20	A 178099

75050	S	RV	SC		S	94	94	N		P		3	6.1	8.5	6.1	0	0	20.7		10.1	CS750	A 61099
75051N	M	RO	PO			60	60	E		C		3	18.6	23.2	18.6	0	0	60.4	-45	11.6	HS20	A 702099
75051S	M	RO	PO			60	60	E		C		3	18.6	23.2	18.6	0	0	60.4	-45	11.6	HS20	A 702099
75054	M	GS	FC		S	67	67	J		P		3	29	16.2	29	0	0	74.2		23.5	HS20	A 167099
75055N	M	GS	RB		C	60	60	H		C		3	13.7	15.8	13.7	0	0	43.2		11.6	HS20	A 4206099
75055S	M	GS	RB		C	60	60	E		C		3	13.7	15.8	13.7	0	0	43.2		11.6	HS20	A 4206099
75058N	M	RO	CT		C	61	61	E		C		4	14.6	20.1	20.1	14.6	0	69.4		11.6	HS20	A 1860099
75058S	M	RO	CT		C	61	61	E		C		4	14.6	20.1	20.1	14.6	0	69.4		11.6	HS20	A 1860099
75059	M	RV	RB		C	60	60	A		C		4	21.3	29.3	21.3	12.2	0	84.1		7.9	HS20	A 58099
75062	S	IC	VH		S	74	74	A		P		2	6.1	6.1	0	0	0	12.2		13.7	HS25	A 297099
75066	M	GS	PB		C	80	81	H		P		4	45.1	45.1	45.1	45.1	0	180.4		18.9	MS230	E 100096
75070	M	RV	CT		C	60	60	E		C		3	12.8	18.3	12.8	0	0	43.9		11	HS20	A 131099
75075	M	RV	SMC		C	86	86	A		P		3	8	10	8	0	0	26	20	12.1	MS300	A 85099
75111	M	RV	PO		S	61	61	R		C		4	30.5	30.5	30.5	30.5	0	122		9.1	HS20	A 118099
75112	M	RO	PO		C	61	61	R		C		3	18.3	18.3	18.3	0	0	54.9		11	HS20	A 118099
75118	M	GS	CS			59	59	A		C		3	11	11	11	0	0	33	-29	9.1	HS20	A 182099
7513	M	RV	PO		S	59	59	Y		P		3	21.3	24.4	21.3	0	0	67	-25	7.9	HS20	E 100095
75186	M	RV	PO		S	60	60	E		C		4	30.5	30.5	30.5	30.5	0	122		7.9	HS20	A 341099
75187	M	RV	TH		S	61	61	J		C		4	76.2	76.2	76.2	76.2	0	304.8	29	9.1		A 68099
75193E	M	RO	PO			61	61	E		C		3	19.5	19.5	19.5	0	0	58.5	-45	11.6	HS20	A 2460099
75193W	M	RO	PO			61	61	E		C		3	19.5	19.5	19.5	0	0	58.5	-45	11.6	HS20	A 2460099
75194	M	RV	CBT		C	88	88	C		P		4	36	42	42	36	0	156	20	9	MS300	A 12099
75195E	M	GS	RB		C	61	61	E		C		3	14	24.4	17.1	0	0	55.5	38	12.2	HS20	A 1787099
75195W	M	GS	RB		C	61	61	E		C		3	14	24.4	17.1	0	0	55.5	38	12.2	HS20	A 1787099
75197	M	RV	PO			61	61	R		C		3	18.9	26.5	26.2	0	0	71.6		9.1	HS20	A 255099
75217S	M	RV	TH	RG	C	65	65	L	C	C	C	9	30.5	45.7	61	76.2	61	472.4		8.2	HS20	A 344098
7524	C	RV	AP			80	80					1	72					675	40	100		A 260098
75305	M	RV	RB	SMC	S	61	61	E	E	C	C	3	10.7	18.3	10.7	0	0	39.7		9.2	HS20	A 109099
75315	M	RV	WG		H	61	61	P		C		5	72.2	79.2	85.3	79.2	72.2	388.1		8.5	HS20	A 45099
75331S	M	GS	CV		C	62	62	I		C		3	14.3	16.5	12.8	0	0	43.6	-29	12.2	HS20	
75332N	M	GS	RB		S	62	62	A		C		4	14	14.2	14.2	14	0	56.4	20	12.2	HS20	A 2283099
75332S	M	GS	RB		S	62	62	I		C		4	14.8	14.9	14.9	14.8	0	59.4	20	12.2	HS20	A 2283099
75334	M	GS	CBT		S	82	83	C		P		2	36	36	0	0	0	72	6	18	MS300	
75335N	M	RV	WG		C	62	62	R		C		4	39.6	50	50	39.6	0	179.2	10	12.2	HS20	A 2283099
75335S	M	RV	WG		C	62	62	R		C		4	39.6	50	50	39.6	0	179.2	10	12.2	HS20	A 2283099
75336	M	GS	RB		C	61	61	A		C		4	13.7	26.5	26.5	13.7	0	80.4		21.3	HS20	A 467099
75337N	M	RO	RB		C	62	62	A		C		3	17.7	22.6	17.7	0	0	58	41	12.2	HS20	A 1911099
75337S	M	RO	RB		C	62	62	A		C		3	17.7	22.6	17.7	0	0	58	41	12.2	HS20	A 1911099
75338N	M	RV	PO			62	62	J		P		4	18	20.1	27.4	22.9	0	88.4	15	12.2	HS20	A 1911099
75338S	M	RV	PO			62	62	J		C		4	18.3	23.8	27.4	26.5	0	96	15	12.2	HS20	A 1911099
75339N	M	RO	RB		C	62	62	A		C		3	14.9	18.9	14.9	0	0	48.7	32	12.2	HS20	A 1911099
75339S	M	RO	RB		C	62	62	A		C		3	14.9	18.9	14.9	0	0	48.7	32	12.2	HS20	A 1911099
75340N	M	GS	PO			62	62	I		C		3	15.2	29	15.2	0	0	59.4	31	15.8	HS20	A 1911099
75340S	M	GS	PO			62	62	C		C		3	15.2	29	15.2	0	0	59.4	31	15.8	HS20	A 1911099
75341	M	GS	PO		S	63	63	E		P		4	14	28.7	28.7	19.2	0	90.6	35	9.2	HS20	A 587099
75355	S	RV	HH			61	61	N		P		1	6.1	0	0	0	0	6.1		7.3	HS20	E 1989
75371	M	RV	WG		C	90	90	A		C		3	16	22	16	0	0	54	15	10	CS750	A 87099

75383	M	RO	PO			63	63	J		C		3	17.4	17.7	16.8	0	0	51.9		11.5	HS20	A 209099
75386	M	IC	SCC		C	96	96	I		P		3	12	14	12	0	0	38		11.1	CS750	A 48099
75420W	M	GS	FR		C	63	63	H		C		5	13.4	24.4	7.6	24.4	13.4	83.2	-20	14	HS20	A 729099
75487	S	RV	SC		S	94	94	N		P		1	6.1	0	0	0	0	6.1		12.8	CS750	A 179099
75491	M	RV	RB		C	62	62	N		C		3	19.5	24.4	19.5	0	0	63.4	-15	7.9	HS20	
75498	M	GS	FC			70	70	A		P		2	35.1	35.1	0	0	0	70.2	-15	15.2	HS20	A 118099
75500	M	RV	WG	CS	C	62	62	F	A	C	P	6	6.1	44.8	55.8	55.8	44.8	213.4		7.9	HS20	E 15097
75522	M	GS	RB		C	63	63	H		C		4	12.5	21.3	21.3	12.5	0	67.6		14.6	HS20	A 622099
75529	M	RV	PO		P	66	66	A		C		4	36.6	38.1	38.1	36.6	0	149.4		13.4	HS20	A 358099
7553	M	RV	PO		S	60	60	E		C		3	18.3	18.3	18.3	0	0	54.9		11	HS20	A 80099
75535N	M	RV	PQ			64	64	I		C		3	15.8	16.8	15.8	0	0	48.4		12.2	HS20	A 1911099
75535S	M	RV	PQ			64	64	I		C		3	15.8	16.8	15.8	0	0	48.4		12.2	HS20	A 1911099
75538	M	RV	FC		S	70	94	J		P		4	32	32	32	32	0	128	-20	7.3	HS20	A 18099
75539	M	RV	RB		C	63	63	R		C		3	20.4	25.6	20.4	0	0	66.4	-20	7.9	HS20	A 133099
75543E	M	GS	FC		S	65	65	J		P		4	12.2	19.8	19.8	12.2	0	64	16	15.8	HS20	A 3040099
75543W	M	GS	FC		S	65	65	J		P		4	12.2	19.8	19.8	12.2	0	64	16	15.8	HS20	A 3040099
75555	M	GS	FR		C	63	63	E		C		5	12.8	22.9	7.6	22.9	12.8	79	6	21.3	HS20	A 275099
75623N	M	RV	HC			63	63	E		P		3	10.1	11.6	10.1	0	0	31.8		12.8	HS20	A 1911099
75623S	M	RV	HC			63	63	F		P		3	10.1	11.6	10.1	0	0	31.8		12.8	HS20	A 1911099
75644	M	GS	RB		C	64	64	R		C		4	18.6	31.1	31.1	18.6	0	99.4	-42	14	HS20	A 430099
75651N	M	GS	RB		C	64	64	C		C		3	13.1	26.5	13.1	0	0	52.7	15	15.8	HS20	A 1747099
75651S	M	GS	RB		C	64	64	C		C		3	13.1	26.5	13.1	0	0	52.7	15	15.8	HS20	A 1747099
75661N	M	GS	PE			63	63	F		P		3	12.8	10.7	12.8	0	0	36.3		12.8	HS20	A 1911099
75661S	M	GS	PE			63	63	F		P		3	12.8	10.7	10.7	0	0	34.2		12.8	HS20	A 1911099
75663	M	RV	DBT		S	82	83	H		P		2	22	14	0	0	0	36	-20	11	MS300	
75667	M	GS	FC		C	63	63	A		P		4	13.7	22.9	22.9	13.7	0	73.2		9.1	HS20	A 137099
75672	M	RV	PE		S	64	64	A		P		3	12.8	12.8	12.8	0	0	38.4		11	HS20	A 155099
75677	M	GS	RB		C	64	64	E		C		4	13.1	30	30.8	13.1	0	87	-8	10.4	HS20	E 50096
75678	M	GS	RB		C	64	64	A		C		4	12.2	23.2	23.2	12.2	0	70.8		8.5	HS20	E 2596
75694	M	RV	VF	VS	S	75	75	J	A	P	P	3	9.1	32	9.1	0	0	50.2		8.5	HS25	A 19099
75698	S	RV	SC		S	95	95	A		P		1	10.1	0	0	0	0	10.1		11	CS750	A 86099
756N	M	RV	FC		S	70	70	E		HP		4	335	335	335	335		1340		122	HS20	A 481098
75701	M	RV	WG		C	68	68	J		C		4	48.8	61	61	48.8	0	219.6		8.5	HS20	A 57099
75707S	M	GS	RB		C	66	66	A		C		4	12.5	20.4	20.4	14.9	0	68.2	-28	9.1	HS20	A 734099
75722	M	GS	FC			64	64	A		C		4	15.2	25.6	25.6	15.2	0	81.6	-26	9.1	HS20	E 10094
75723	M	GS	RB		C	66	66	C		C		4	12.2	23.2	23.2	12.2	0	70.8		8.5	HS20	E 10094
75724	M	GS	FC	CF	C	65	65	A	A	C	C	3	25.6	17.7	25.6	0	0	68.9		9.1	HS20	A 49099
75725	M	GS	FC			64	64	A		C		4	13.7	28	28	13.7	0	83.4	4	10.4	HS20	E 10095
75726	M	GS	FR		C	65	65	A		C		3	30.5	9.1	30.5	0	0	70.1		9.1	HS20	E 10094
75731	M	RV	CBC		C	64	94	I		P		3	18	16	18	0	0	52	40	13.4	CS750	A 164099
75742	S	IC	HC		S	63	63	A		P		1	8.5	0	0	0	0	8.5		8.2	HS20	A 45099
75744	M	RO	RB		H	65	65	A		C		3	7	18.3	7	0	0	32.3	-25	13.4	HS20	A 646099
75752	M	RV	SMC		C	86	86	A		P		3	10	11	10	0	0	31		12.1	MS300	A 255099
75754	M	GS	PO			64	64	J		C		4	13.4	27.1	27.1	13.4	0	81	-11	10.4	HS20	E 5094
75760	M	GS	FC			67	67	J		P		3	29	16.2	29	0	0	74.2	2	23.7	HS20	A 1081099
75774	M	RV	WG		C	89	89	A		C		3	17.9	21.4	19.5	0	0	58.8		13	MS300	A 164099
75812N	S	GS	HC			63	63	A		P		1	9.1	0	0	0	0	9.1		12.8	HS20	A 1911099

75812S	S	GS	HC			63	63	A		P		1	9.1	0	0	0	0	9.1		12.8	HS20	A 1911099
75816	M	RO	RD		S	76	76	I		P		3	13.7	19.8	13.7	0	0	47.2		9.8	HS25	A 93099
75817	M	RV	HC			63	63	A		P		3	8.5	11.6	8.5	0	0	28.6		9.1	HS20	A 86099
75820	S	IC	HC		S	64	64	N		P		3	8.5	8.5	8.5	0	0	25.5	-30	8.2	HS20	A 113099
75853	S	IC	HC			64	64	N		P		3	8.5	8.5	8.5	0	0	25.5	-15	9.3	HS20	A 98099
75855	M	IC	SMC		C	88	89	A		P		4	10	11	11	10	0	42	25	10.8	MS300	
75857	S	IC	SM		S	86	86	C		P		4	11	11	11	11	0	44	-20	8.8	MS230	
75876	M	IC	FC		S	65	65	A		P		3	18.3	21.3	18.3	0	0	57.9		9.1	HS20	A 61099
75904	M	RV	DBC		S	94	94	A		P		1	34	0	0	0	0	34		11.9	CS750	A 64099
75919S	M	RO	RB		C	67	67	A		C		3	16.5	20.4	16.5	0	0	53.4	45	13.4	HS20	A 578099
75929	M	IC	CS		S	63	63	A		C		3	8.5	11	8.5	0	0	28		9.1	HS20	A 61099
75931	M	GS	RB		H	66	66	F		C		4	12.2	23.2	31.1	12.2	0	78.7		9.1	HS20	E 40088
75932	M	GS	RB		C	66	66	R		C		4	13.4	26.8	26.8	13.4	0	80.4		9.1	HS20	A 494099
75933	M	GS	RB		C	65	65	C		C		4	12.5	22.9	22.9	12.5	0	70.8		9.1	HS20	A 234099
75935S	M	GS	RB		C	68	68	A		C		4	13.1	28.7	24.7	13.1	0	79.6	22	7.3	HS20	E 400099
75945	M	GS	FC			66	66	J		P		4	12.2	16.8	21.3	12.2	0	62.5	-10	14	HS20	A 273099
75946	M	RV	SS	RB	S	68	68	R	E	C	C	8	29	92.4	124.7	124.7	29	573		8.5	HS20	A 490099
75955	S	IC	PG			66	66	A		P		1	6.1	0	0	0	0	6.1		9.1	HS20	A 61099
75957E	M	GS	PM	PE		64	64	A	A	P	P	3	10.7	16.8	10.7	0	0	38.2	-9	13.7	HS20	A 822099
75957W	M	GS	DBT		C	81	82			P		3	10	20	10	0	0	40	-9	13.1	MS230	A 822099
75959	S	RV	VS		S	76	76	R		P		1	6.1	0	0	0	0	6.1		10.1	HS25	A 64099
75980	S	IC	SM		S	83	83	A		P		4	10	10	10	10	0	40		10	MS23	A 32099
75994	M	RO	PM			65	65	A		P		3	15.2	16.8	15.2	0	0	47.2	10	9.1	HS20	E 200096
76005	M	RV	SMC		C	87	87	A		P		3	10	10	10	0	0	30		12	MS300	A 255099
76007	M	RV	CBT		C	87	88	C		P		3	20	26	20	0	0	66	15	9	MS300	A 7099
76021	S	RV	SM		S	87	87	A		P		1	6	0	0	0	0	6		14.9	MS225	A 133099
76034	M	RV	DT	RB		66	66	E	E	C	C	7	16.8	61	61	61	16.8	338.3		8.5	HS20	A 215099
76044	M	RV	FC			70	70	A		P		7	27.4	27.4	27.4	27.4	27.4	192		4.9	HS20	E 10096
76054S	M	RO	DBT		C	85	86	H		P		3	11.1	13	11.1	0	0	35.2	-10	16.2	MS300	A 639099
76056	M	GS	PM			68	68	R		P		3	16.8	16.8	16.8	0	0	50.4	-8	15.5	HS20	A 274099
76057	M	GS	RB		C	68	68	R		C		3	12.2	24.4	12.2	0	0	48.8		20.7	HS20	A 274099
76059	M	GS	PM			68	68	R		P		4	15.2	15.2	12.2	12.2	0	54.8	44	13.4	HS20	A 274099
76060	M	RO	FM		S	81	82	R		C		1	38	0	0	0	0	38		19.3	MS230	A 490099
76061	M	RO	WG		C	81	86	E		C		7	14	16.5	16.5	16.5	12	108.5	9	20.8	MS230	A 490099
76063	M	RO	PM			69	69	A		P		5	12.2	12.2	15.2	13.7	12.2	65.5	49	9.3	HS20	A 117099
76081S	M	RV	RB		C	65	65	C		C		3	10.4	30.5	10.4	0	0	51.3		11	HS20	A 214098
76087	S	RV	HC			65	65	A		P		1	6.1	0	0	0	0	6.1		13.7	HS20	A 38099
76088	S	RV	HC			65	65	A		P		1	6.1	0	0	0	0	6.1		13.7	HS20	A 38099
76089	S	RV	PE			65	65	A		P		1	12.8	0	0	0	0	12.8		13.7	HS20	A 38099
76091	M	RV	RM		S	81	82	A		P		3	14	16	16	0	0	46	-10	8.6	MS350	A 55099
76092	M	GS	FR		C	68	68	I		C		3	31.1	11	31.1	0	0	73.2	-15	9.1	HS20	E 100096
76093E	M	RO	PM		S	68	68	H		P		3	13.7	19.2	16.8	0	0	49.7		12.5	HS20	A 3040099
76093W	M	RO	PM		S	68	68	H		P		3	13.7	19.2	16.8	0	0	49.7		12.5	HS20	A 3040099
76094	M	GS	FC			68	68	A		P		3	27.4	16.2	27.4	0	0	71	3	13.7	HS20	E 1000096
76097E	M	GS	FC			68	68	A		P		4	22.9	30.5	24.4	19.8	0	97.6	-30	10.4	HS20	A 3525097
76102N	M	GS	PM			66	66	I		P		3	12.2	16.8	12.2	0	0	41.2		13.7	HS20	A 639099
76102S	M	GS	DBT		C	85	86	H		P		3	10	20	10	0	0	40		13.1	MS300	A 639099

76109	M	RO	PM		S	66	66	A		P		3	10.7	15.2	13.7	0	0	39.6	15	11	HS20	A 215099
76117	M	RV	WG	SMC	S	65	65	E	E	C	C	3	5.9	36.6	5.9	0	0	48.4		11	HS20	A 215099
76118	M	RV	WG	SMC	S	66	66	E	E	C	P	3	5.9	39.6	5.9	0	0	51.4		11	HS20	A 215099
76128	M	RO	PM			68	68	I		P		3	13.7	15.2	13.7	0	0	42.6	-8	11	HS20	A 169099
76133	C	IC	MP			95	95					1	24					24		90		A 64098
76158	M	GS	FR		C	66	66	C		C		3	28.3	4.3	28.3	0	0	60.9	-10	16.5	HS20	A 129099
76159	M	GS	FC		H	67	67	E		P		3	29	16.2	29	0	0	74.2		10.2	HS20	A 124099
76161	M	RO	PJ			65	65	R		C		3	16.5	17.8	17.8	0	0	52.1	-36	13.4	HS20	A 490099
76177	M	GS	FC		S	67	67	A		P		4	13.1	25.9	25.9	13.1	0	78	-22	15.2	HS20	A 216099
76181E	M	RO	RB		C	67	67	C		C		4	18.9	23.8	23.8	18.9	0	85.4	49	12.2	HS20	A 900099
76181W	M	RO	RB		C	67	67	C		C		4	18.9	23.8	23.8	18.9	0	85.4	49	12.2	HS20	A 900099
76185	M	RV	PM		S	67	67	A		P		3	18.3	18.3	18.3	0	0	54.9	30	11	HS20	A 196099
76186	M	RV	FC			67	67	R		P		4	16.8	21.3	16.8	12.2	0	67.1		10.7	HS20	A 196099
76190	M	RV	TH		S	67	67	A		P		1	61	0	0	0	0	61		7.3		A 7099
76212	M	RV	FC			68	68	F		P		3	27.4	27.4	27.4	0	0	82.2		9.1	HS20	A 36099
76223	M	RV	FC			66	66	J		P		3	12.2	25.9	12.2	0	0	50.3		9.1	HS20	A 87099
76226	M	RO	PM			67	67	A		P		3	18.3	18.3	18.3	0	0	54.9	-45	13.7	HS20	A 358099
76301	M	RV	LF		S	77	77	H		P		1	32	0	0	0	0	32		13.6	HS25	A 396099
76330	M	RO	PM			67	67	R		P		3	16.8	16.8	16.8	0	0	50.4	-38	13.7	HS20	A 230099
76339E	M	RO	FC			69	69	J		P		5	21.3	25.9	15.2	25.9	21.3	109.6	-52	12.2	HS20	A 3029099
76339W	M	RO	FC			69	69	J		P		5	21.3	25.9	15.2	25.9	21.3	109.6	-52	12.2	HS20	A 3029099
76349	S	IC	SM		S	89	89	N		P		5	10	10	10	10	10	50	45	8.8	MS230	A 14091
76364	M	RV	PO		C	67	67	A		C		2	27.4	27.4	0	0	0	54.8		13.4	HS20	A 358099
76378	M	RO	RB		C	71	71	J		C		3	21.3	27.4	21.3	0	0	70	-56	11	HS20	A 185099
76381	M	GS	FR		C	67	67	F		C		3	33.2	11	33.2	0	0	77.4	-23	12.8	HS20	A 268293
76382N	M	GS	RB		C	67	67	C		C		4	15.2	30.5	30.5	15.2	0	91.4	40	7.3	HS20	E 10088
76392	M	GS	VF		S	74	74	J		C		2	38.1	38.1	0	0	0	76.2	-11	14.9	HS25	A 1281099
76406	M	GS	CF		C	75	75	A		C		1	69.2	0	0	0	0	69.2		14.6	HS25	A 1960099
76407	M	RO	RD		S	74	74	A		P		3	15.2	16.8	15.2	0	0	47.2	21	9.1	HS25	A 85099
76410	M	IC	SMC		C	86	86	A		P		4	11	11	11	11	0	44	-32	12.1	MS300	A 78099
76415	S	RV	SC		S	93	93	A		P		1	6.1	0	0	0	0	6.1	-30	11	CS750	A 348099
76458	S	IC	SM		S	87	87	A		P		3	11	11	11	0	0	33	-22	8.8	MS230	A 55099
76474A	M	RV	FC		S	51	73	F		C		1	0	0	16.8	0	0	16.8	10	7.6	HS20	A 63099
76478	M	RV	PM		S	66	66	A		P		3	10.7	13.7	10.7	0	0	35.1	-15	11	HS20	A 348099
76511	M	IC	DBT		S	83	84	N		P		1	38	0	0	0	0	38	26	9.5	MS300	A 44099
76521	M	RV	FM		S	82	82	C		P		2	24.6	24.4	0	0	0	49		8.5	MS230	
76528	M	RV	PM			68	69	F		P		3	12.2	15.2	12.2	0	0	39.6		8.2	HS20	A 72099
7653	S	RV	PE		S	62	62	C		P		3	12.8	12.8	12.8	0	0	38.4		10.1	HS20	A 50099
76540	M	RO	PM		S	68	68	A		P		3	15.2	15.2	15.2	0	0	45.6	7	15.8	HS20	A 134099
76558	M	RV	FC		S	70	70	I		P		3	21.3	21.3	21.3	0	0	63.9	-25	9.1	HS20	A 185099
76565	M	GS	DBT		C	84	85	H		P		2	40	40	0	0	0	80	-11	13.4	MS300	A 158099
76566	M	GS	FC		S	70	70	F		P		2	36.6	36.6	0	0	0	73.2	26	9.1	HS20	E 10088
766	M	RV	PO		S	60	60	C		C		3	23.8	24.4	23.8	0	0	72	-30	7.9	HS20	A 17293
76609	M	RV	WG	HC	C	70	70	R	F	C	P	6	6.1	33.5	42.7	33.5	6.1	164.6	-25	9.1	HS20	A 494099
76615	M	GS	FC		S	69	69	A		P		2	35.1	35.1	0	0	0	70.2	-8	9.1	HS20	E 12088
76625	M	GS	VF		S	74	74	A		P		4	12.2	38.1	38.1	15.2	0	103.6	-47	13.4	HS25	A 393099
76633	M	RV	PM		S	68	68	N		P		3	10.7	12.2	10.7	0	0	33.6		10.1	HS20	A 39099

76634	M	RV	PM			68	68	N		P		3	12.2	12.2	12.2	0	0	36.6	15	10.1	HS20	A 39099
76639	M	RV	FC		S	72	72	I		P		1	27.4	0	0	0	0	27.4		8.8	HS20	A 64099
76646E	M	GS	PM		P	68	68	I		P		3	10.7	16.8	10.7	0	0	38.2		17.1	HS20	A 3029099
76646W	M	GS	PM		P	68	68	I		P		3	10.7	16.8	10.7	0	0	38.2		17.1	HS20	A 3029099
76648	M	GS	WG		C	69	69	H		C		2	45.7	39.6	0	0	0	85.3		11.6	HS20	
76649W	M	GS	FR		C	69	69	J		C		3	15.5	29	15.5	0	0	60	51	7.3	HS20	A 3029099
76650N	M	RO	FC		S	74	74	J		P		4	24.4	32	32	18.3	0	106.7	48	12.2	HS20	A 2409099
76650S	M	RO	FC		S	74	74	J		P		4	16.8	28	25.9	15.2	0	85.9		17.1	HS20	A 2409099
76652	M	GS	WG		C	71	71	E		C		2	35.1	35.1	0	0	0	70.2		14.5	HS20	A 2409099
76653	M	GS	RB		C	73	73	A		C		3	18.3	32	16.8	0	0	67.1	40	15.2	HS20	
76658	M	GS	FC		S	70	71	J		P		2	33.5	33.5	0	0	0	67	9	8.5	HS20	E 100088
76659	M	GS	FC		S	70	70	A		P		2	33.5	33.5	0	0	0	67		8.5	HS20	E 20088
76660	M	GS	FC		S	70	70	A		P		2	33.5	33.5	0	0	0	67	9	8.5	HS20	A 178099
76661	S	RV	SC		S	94	94	N		P		3	6.1	8.5	6.1	0	0	20.7		10.1	CS750	A 61099
76669	M	RO	PM		S	68	68	F		P		3	16.8	13.7	13.7	0	0	44.2	-45	9.1	HS20	A 72099
76686	S	RV	SC		S	93	93	A		P		3	8.5	8.5	8.5	0	0	25.5		12.8	CS750	A 236099
76707	M	RV	RB	HC	C	56	56	C	C	C	C	8	6.1	25.9	36.5	25.9	6.1	118.8		4	HS20	
76719	M	RO	RD		S	80	81	E		P		3	19.8	21.3	19.8	0	0	60.9	35	13.4	HS25	A 396099
76720	M	RO	RD		S	77	78	R		P		3	15.2	18.3	18.3	0	0	51.8	-33	13.4	HS25	A 396099
76726	S	IC	SM		S	86	86	N		P		4	11	11	11	11	0	44	30	7.6	MS230	A 8694
768	M	RV	CS		S	25	25	C		C		1	8.5	0	0	0	0	8.5		5.2	H20	E 1090
76805E	M	RO	PM		S	71	71	A		P		3	16.8	16.8	16.8	0	0	50.4	-32	12.8	HS20	A 970099
76805W	M	RO	PM		S	71	71	A		P		3	16.8	16.8	16.8	0	0	50.4	-32	12.8	HS20	A 970099
76845	M	GS	WG		C	78	81	H		C		4	45.3	45	45	45.3	0	180.6		18.9	MS23	A 748099
76848	M	GS	WG		C	69	69	E		C		2	39.6	45.7	0	0	0	85.3		11.6	HS20	A 321099
76849	M	GS	CA		S	69	69	A		C		1	16.2	0	0	0	0	16.2		35.3	HS20	A 2929099
76850	M	GS	FC		S	70	70	J		C		2	36.6	36.6	0	0	0	73.2		9.1	HS20	A 235099
76856	M	RV	FC	PM	S	66	66	N	C	P	P	5	16.8	24.4	24.4	24.4	16.8	106.8		7.6	HS20	E 20091
76886	M	RO	PM		S	70	70	A		P		3	10.7	16.8	15.2	0	0	42.7	-24	11	HS20	A 96099
76913	M	RO	PJ		P	73	74	I		P		3	15.2	20.1	16.8	0	0	52.1	-25	10.1	HS20	A 112099
76925	M	RV	SCC		S	95	95	I		P		3	8	10	8	0	0	26		10.8	CS750	A 42099
76927	M	RV	FC		S	70	70	J		P		1	35.1	0	0	0	0	35.1	20	8.5	HS20	A 35099
76950	M	IC	DBT		S	82	82	N		P		1	40	0	0	0	0	40		8.1	MS230	E 3092
76986	M	RV	WG		C	70	70	C		C		3	52.4	65.8	52.4	0	0	170.6		8.5	HS20	A 73099
77006	M	GS	CF		S	70	70	A		C		1	8.7	0	0	0	0	8.7		24.4	HS20	A 1557099
77015	S	RV	HC		S	69	69	A		P		1	6.1	0	0	0	0	6.1		9.1	HS20	A 185099
77054E	M	GS	FC		S	73	73	A		P		2	31.4	31.4	0	0	0	62.8	-10	13.4	HS20	A 458099
77054W	M	GS	DBT		C	86	87	A		P		2	34	34	0	0	0	68	-9	10.3	MS300	A 458099
77073	M	RV	WG		C	88	89	J		C		3	20	24	20	0	0	64	45	11	MS300	E 10096
77083	M	IC	SMC		C	88	88	A		P		4	8	11	11	8	0	38	11	10.8	MS300	A 129099
77088	M	RO	LF		S	78	79	R		P		3	21.3	27.4	24.4	0	0	73.1	58	13.7	HS25	A 646099
77090E	M	RO	PM		S	73	73	A		C		3	18.3	20.1	18.3	0	0	56.7	-45	12.8	HS20	A 1287099
77090W	M	RO	PM		S	73	73	A		P		3	18.3	20.1	18.3	0	0	56.7	-45	12.8	HS20	A 1287099
77091E	M	GS	FC		S	70	70	J		P		2	24.4	24.4	0	0	0	48.8		12.2	HS20	A 1287099
77091W	M	GS	FC		S	70	70	J		P		2	24.4	24.4	0	0	0	48.8		12.2	HS20	A 1287099
77091WC	M	GS	FC			70	70	J		P		2	24.4	24.4	0	0	0	48.8		7.2	HS20	A 1287099
77120	X	IC				89	89					2	15	12				27				

77126	M	GS	FC		S	72	72	J		P		2	36.6	36.6	0	0	0	73.2		20.1	HS20	A 598099
77129	M	GS	VF		S	74	75	F		P		2	36.6	36.6	0	0	0	73.2		8.5	HS25	A 46099
7717	S	RV	HC		S	63	63	N		P		1	8.5	0	0	0	0	8.5	30	9.1	HS20	E 7090
77173	M	GS	WG		C	71	71	A		C		2	579	579				1158	-44	85	HS20	
77173E	M	GS	WG		C	71	71	A		C		2	57.9	57.9	0	0	0	115.8	-44	8.5	HS20	
77175	M	RV	FC		S	70	70	J		P		1	24.4	0	0	0	0	24.4		10.4	HS20	A 61099
77177	M	RV	FC		S	71	71	J		P		5	33.5	33.5	33.5	33.5	33.5	167.5		12.2	HS20	A 424099
77206	M	RV	PM		S	71	71	A		P		3	12.2	12.2	12.2	0	0	36.6		11	HS20	A 152099
77212	M	RV	PM		S	70	70	A		P		3	16.8	16.8	16.8	0	0	50.4		9.1	HS20	A 53099
77237	M	RV	VF		S	75	75	N		P		3	12.2	29.3	12.2	0	0	53.7		7.6	HS25	A 23087
77254	M	GS	VF		S	74	75	J		P		4	13.7	35.1	35.1	13.7	0	97.6		15.5	HS25	A 352099
77284	S	IC	HC		S	72	72	F		P		3	11.6	11.6	11.6	0	0	34.8	-15	8.4	HS20	A 95099
77288	M	RO	RM		C	79	80	C		P		3	28	28	11.9	0	0	67.9	-10	29.3	MS23	A 1992093
77289	M	RO	RM		S	79	80	H		P		3	18	20.1	18	0	0	56.1	-34	29.3	MS23	A 1992093
77295	M	RV	WG		C	72	72	C		C		4	36.6	48.8	48.8	36.6	0	170.8	15	4.3	HS20	
77303E	M	RO	RM		C	80	81	H		P		4	14	18	18	14	0	64	-5	13.4	MS230	A 772099
77303W	M	RO	RM		C	80	81	H		P		4	14	18	18	14	0	64	-5	13.4	MS230	A 772099
77315	M	RO	RD		S	75	75	J		P		3	20.1	20.1	20.1	0	0	60.3	-26	16.5	HS25	A 618099
77317	S	RV	VH		S	74	74	C		P		4	10.1	10.1	10.1	10.1	0	40.4	15	10.1	HS25	A 56099
77320	M	RV	PM		S	72	72	C		P		3	18.3	18.3	18.3	0	0	54.9		9.1	HS20	A 16099
77321	M	RV	PM		S	71	71	N		P		3	17.7	17.7	17.7	0	0	53.1	-15	9.1	HS20	A 29099
7733	M	RV	SCC		C	96	96	I		P		3	12.6	12.6	12.6	0	0	37.8	35	11.1	CS750	A 154099
77335	M	RV	PM		S	71	71	A		P		3	12.2	12.2	12.2	0	0	36.6		12.8	HS20	E 42694
7734	S	RV	SM		S	82	82	A		P		3	8	10	8	0	0	26	-30	8.8	MS23	A 28099
77341	M	RV	SCC		C	92	93	I		P		3	12	12	12	0	0	36		11.9	CS750	A 152099
77349	M	GS	FM		S	78	78	E		P		4	22	26	26	26	0	100		14	MS23	A 137099
77389E	M	GS	RD		S	74	75	A		P		3	9.1	18.3	9.1	0	0	36.5		12.2	HS25	A 822099
77389W	M	GS	RD		S	74	75	A		P		3	9.1	18.3	9.1	0	0	36.5		12.2	HS25	A 822099
77419	M	RV	WG		C	80	81	C		P		3	65	81	65	0	0	211	-25	9.1	MS23	A 14099
77426	M	GS	VF		S	75	75	J		P		2	36.6	36.6	0	0	0	73.2		10.1	HS25	A 86099
77460	M	RV	VH		S	73	73	E		P		3	11.6	11.6	11.6	0	0	34.8	-30	13.7	HS25	A 86099
77466	M	RO	PM		S	72	73	F		P		3	15.2	16.8	16.8	0	0	48.8	-19	11	HS20	A 494099
77471	M	RV	RD	VS	S	75	75	A	A	P	P	3	9.1	24.4	9.1	0	0	42.6		11	HS25	A 152099
77485	S	RV	VS			74	74	A		P		1	6.1	0	0	0	0	6.1		11.3	HS25	A 178099
77486	M	RV	VF		S	74	75	J		P		1	29	0	0	0	0	29	-15	11	HS25	A 178099
77487	S	RV	VSO		P	74	74	J		P		3	6.1	9.1	6.1	0	0	21.3	30	11.3	CS750	A 178099
77493	M	RV	FC		S	61	74	N		P		1	30.4	0	0	0	0	30.4		7.3	HS20	E 1091
77498	M	RV	DBT		C	86	87	A		P		3	18.1	23.9	18.1	0	0	60.1	-10	12.5	MS300	A 11587
77501	M	RV	FC		S	50	74	C		P		1	30.5	0	0	0	0	30.5		7.3	HS20	A 11587
77502	M	RV	VM		S	74	74	N		P		3	18.3	18.3	18.3	0	0	54.9	-40	11.2	HS25	A 11587
77503	M	RV	FC		S	73	73	F		P		3	15.2	24.4	15.2	0	0	54.8		8.8	HS20	A 11387
77504	M	RV	VM		S	74	74	N		P		3	15.2	15.2	15.2	0	0	45.6	-20	11.1	HS25	A 11387
77505	M	RV	VM		S	74	74	N		P		3	18.3	18.3	18.3	0	0	54.9	35	11	HS25	A 11387
77506	M	RV	PM		S	72	72	N		P		1	15.2	0	0	0	0	15.2		7.3	HS20	A 11387
77507	M	RV	FC		S	50	74	C		P		1	22.6	0	0	0	0	22.6		7.2	HS20	A 11387
77514	M	RV	PT	HC	S	69	78	N	C	P	N	3	10.1	35.1	10.1	0	0	55.3		7.3	HS20	E 50089
77521	M	GS	VF		S	75	75	J		P		4	24.4	32	27.4	24.4	0	108.2		16.8	HS25	A 714099

77528E	M	RV	DBT		C	87	88	A		P		2	36	36	0	0	0	72	15	12.5	MS300	A 618099
77528W	M	RV	VF		S	74	75	J		P		2	36.6	36.6	0	0	0	73.2	-10	12.5	HS25	A 618099
77530	M	GS	FC		S	74	74	A		P		1	32	0	0	0	0	32	1	7.9	HS20	
77531	M	RV	PJ			73	73	C		C		2	30.5	30.5	0	0	0	61		4.3	HS20	
77532E	M	RV	PM		S	73	73	F		P		2	18.9	18.9	0	0	0	37.8	19	8.5	HS20	A 762890
77534	M	GS	VF		S	75	75	A		P		2	38.1	38.1	0	0	0	76.2	10	10.4	HS25	E 30000
77540	M	RV	DBT		S	83	83	H		P		1	36	0	0	0	0	36		11	MS300	E 70097
77541	M	RV	CV		C	83	83	H		P		3	21	25	21	0	0	67	-45	15.3	MS300	A 646099
77545	M	RO	DBT		C	82	83	H		P		3	16	18	16	0	0	50	20	17.7	MS300	A 775099
77546	M	GS	WG		C	82	83	E		C		4	32	34	34	32	0	132	21	16.8	MS300	A 775099
77547	M	RV	VF		S	74	75	A		P		6	36.6	36.6	36.6	36.6	30.5	207.3		12.2	HS25	A 243099
77548	M	RO	RM		C	81	82	E		P		3	23	24	23	0	0	70	51	12.4	MS230	A 243099
77556E	M	GS	VF		S	75	75	E		P		2	38.1	38.1	0	0	0	76.2	-6	13.7	HS25	A 1992093
77556W	M	GS	VF		S	75	75	A		P		2	38.1	38.1	0	0	0	76.2	-6	13.7	HS25	A 1992093
77563E	M	RO	RD		S	75	75	A		P		3	10.7	12.2	10.7	0	0	33.6		12.2	HS25	A 1145099
77563W	M	RO	RD		S	75	75	A		P		3	10.7	12.2	10.7	0	0	33.6		12.2	HS25	A 1145099
77595	S	RV	PEF		S	71	71	C		P		4	12.8	12.8	12.8	12.8	0	51.2	-15	6.1	HS20	A 6099
77596	M	RV	PM	PG	S	71	87	F	F	P	P	3	8.5	18.3	8.5	0	0	35.3		7.3	HS20	A 29099
77716	S	RV	HC			66	66	A		P		1	8.5	0	0	0	0	8.5	30	10.1	HS20	
7773	M	RV	PO			57	57	C		C		2	24.4	24.4	0	0	0	48.8		7.9	HS20	
77750W	M	GS	PB		C	83	84	H		P		4	23.4	50	50	23.4	0	146.8	-59	12.5	MS300	A 1402099
77753E	M	RV	WG		C	87	88	A		C		5	35	44	44	44	35	202	20	12.5	MS300	A 618099
77753W	M	RV	VF		S	74	75	A		P		5	38.1	38.1	38.1	38.1	38.1	190.5	20	12.2	HS25	A 618099
77782	M	RV	RD		S	77	78	H		P		3	15.2	24.4	15.2	0	0	54.8		13.4	HS25	A 646099
77816	M	RV	RD		S	75	75	A		P		3	16.8	16.8	16.8	0	0	50.4	20	8.7	HS25	A 35099
77817	M	RV	VF		S	75	75	A		P		1	33.5	0	0	0	0	33.5		8.8	HS25	A 35099
77846	M	GS	FM		S	79	79	H		P		4	12	36	38	36	0	122	-40	15.3	MS23	A 146099
77847	M	RO	RD		S	75	76	J		P		3	12.2	12.2	12.2	0	0	36.6	19	13.4	HS25	A 297099
77859W	M	RV	RD		S	75	76	A		P		3	12.2	15.2	12.2	0	0	39.6		12.2	HS25	A 537099
77872N	M	RV	VF		S	75	76	I		P		3	18.3	18.3	18.3	0	0	54.9		13.4	HS25	A 435099
77873	S	RV	VS			74	74	A		P		2	6.1	6.1	0	0	0	12.2	-30	8.8	HS25	A 31099
77878	M	RV	VF		S	74	75	J		P		2	36.6	36.6	0	0	0	73.2	20	8.8	HS25	A 58099
77910	M	GS	CBT		S	84	85	C		P		2	34	34	0	0	0	68		9.8	MS300	E 72095
77919	M	GS	LF		S	77	77	E		P		2	38.1	38.1	0	0	0	76.2		12.2	HS25	A 154099
77994S	M	GS	WG		C	77	78	H		C		3	57.9	64	42.7	0	0	164.6	40	7.6	HS25	E 75096
7802	M	RV	PO		S	55	55	E		P		3	12.2	18.3	12.2	0	0	42.7		11	HS20	A 393099
78020	M	GS	PB		C	86	87	A		P		3	38	38	38	0	0	114	-42	17	MS300	A 391099
78031	M	RV	WG		C	79	81	C		P		5	78	98	98	98	78	450		10	MS23	A 21099
78041N	M	RV	WG		S	74	76	A		C		7	61	76.2	61	61	76.2	472.4		8.5	HS25	A 344098
78055	M	RV	WG		C	85	86	N		C		3	50	62	50	0	0	162		9	MS300	A 99099
7806	M	RV	WG		C	84	85	C		P		3	14	18	14	0	0	46		9	MS300	A 46099
78101	S	IC	SM		S	87	87	N		P		3	10	10	10	0	0	30	-1	7.7	MS230	E 2099
78104	M	RV	VF		S	76	76	J		P		4	33.5	33.5	33.5	33.5	0	134		10.4	HS25	A 93099
78112	M	GS	VSO		C	75	91	C		P		3	7.6	9.1	7.6	0	0	24.3		11.3	CS750	A 178099
78123	M	GS	WG		C	79	80	R		P		2	39	39	0	0	0	78	15	9.1	MS23	E 25095
7815	M	RV	RB		C	64	64	C		C		3	20.1	25.3	20.1	0	0	65.5	20	7.9	HS20	A 20099
78151	M	GS	FM		S	81	82	H		P		2	28	26	0	0	0	54	-5	23.2	MS230	

78152N	M	RV	LF		S	77	77	H		P		3	13.7	22.9	13.7	0	0	50.3		9.1	HS25	A 214098
78156	M	RV	FC			73	73	C		P		2	27.4	27.4	0	0	0	54.8		4.3	SP300	
78170	M	RV	RD		S	77	77	H		P		3	10.7	24.4	10.7	0	0	45.8	10	10.8	HS25	A 27099
78187	M	RV	DBT		C	81	82	N		P		3	14	18	14	0	0	46	15	9.5	MS350	E 4294
78189	M	RV	DBT		C	81	82	N		P		2	26	14	0	0	0	40		9.5	MS350	E 1294
78191	M	RV	RM		S	83	83	A		P		1	26	0	0	0	0	26		9.7	MS230	E 5091
78194	M	RV	RM		C	81	81	N		P		3	17	24	17	0	0	58		10.1	MS230	A 69099
78197	M	RV	RM		S	81	81	A		P		1	24	0	0	0	0	24		11	MS230	A 64099
78199	M	RV	RD		S	78	78	E		P		1	21.3	0	0	0	0	21.3		8.8	HS25	E 20095
78204	M	RV	LF		S	78	78	H		P		1	38.1	0	0	0	0	38.1		9.1	HS25	A 55099
78215	M	RV	RD		S	78	78	E		P		1	21.3	0	0	0	0	21.3		10.1	HS25	
78220	M	RV	PM		S	73	73	F		P		2	18.3	18.3	0	0	0	36.6		5.5	HS20	E 30095
78227	M	RV	DBT		S	83	84	N		P		3	20	20	20	0	0	60	20	11.1	MS300	E 20096
7824	M	RV	RM		S	80	80	C		P		3	21.3	21.3	21.3	0	0	63.9	25	7.9	MS230	E 2595
78260	M	RV	PM		S	71	71	C		P		1	12.8	0	0	0	0	12.8		6.4	HS20	E 10087
78313	M	RV	FM		S	80	80	C		P		3	19.2	27	26.7	0	0	72.9		9.1	SP112	
78314	M	RV	FM		S	80	80	C		P		3	23.2	23.5	23.2	0	0	69.9		9.1	SP112	
7836	M	RV	PO		S	60	60	J		P		2	19.8	19.8	0	0	0	39.6		9.1	HS20	A 145099
78360	M	GS	CBT		C	89	90	A		P		2	40	40	0	0	0	80		17	CS750	E 300000
78373	S	IC	SC		S	92	92	N		P		3	12	12	12	0	0	36	-15	8	CS750	E 2591
78387	S	IC	SC		S	92	92	N		P		4	12	12	12	12	0	48	-45	8	CS750	E 13591
78412	M	IC	CS		S	65	65	C		C		1	8.2	0	0	0	0	8.2		7.3		E 1693
78413	M	IC	CS		S	65	65	C		C		1	8.2	0	0	0	0	8.2		7.3		E 1693
78419	S	IC	SM		S	87	87	N		P		3	11	11	11	0	0	33	30	7.7	MS230	E 1899
78420	S	IC	SM		S	84	84	N		P		3	10	10	10	0	0	30		7.6	MS230	E 2099
78422	S	IC	SM		S	87	87	N		P		3	8	11	8	0	0	27		9	MS230	E 2089
78423	S	IC	SM		S	87	87	N		P		3	10	8	10	0	0	28	-25	7.7	MS230	E 1689
78424	S	IC	SM		S	84	84	N		P		3	8	11	8	0	0	27		7.6	MS230	E 2099
78425	S	IC	SM		S	86	86	N		P		3	10	10	10	0	0	30		7.7	MS230	E 2099
78426	S	IC	SM		S	88	88	N		P		3	10	10	10	0	0	30	-22	7.8	MS230	E 2099
78462	S	IC	SM		S	82	82	N		P		1	8	0	0	0	0	8		7.6	MS23	E 2099
78466	S	RV	SM		S	81	81	A		P		1	10	0	0	0	0	10		8.8	MS23	A 61099
7848	S	RV	SM		S	79	79	A		P		3	11	11	11	0	0	33		10.1	MS23	A 217099
78518	M	RV	DBT		S	82	82	H		P		1	38	0	0	0	0	38		10.7	MS230	A 192099
78527	M	RV	DBT		S	84	85	H		P		1	42	0	0	0	0	42		9.5	MS300	A 190099
7855	S	RV	HC		S	67	67	R		P		3	8.5	8.5	8.5	0	0	25.5	30	10.1	HS20	A 98099
78585	M	RO	WG		C	82	83	C		C		4	21	32	32	21	0	106	-45	14.5	MS230	A 270099
78595	M	RO	FM		S	79	80	H		P		1	38	0	0	0	0	38		29.3	MS23	A 1992093
786	M	RV	FM		S	80	81	H		C		1	34	0	0	0	0	34		12.2	MS230	A 748099
78692	S	IC	SM		S	84	84	N		P		3	11	11	11	0	0	33	-30	7.6	MS230	E 4092
7870	M	RV	LF		S	76	77	E		P		5	38.1	38.1	38.1	38.1	38.1	190.5	-10	9.8	HS25	A 205099
78709	M	RV	RM		S	81	82	H		P		3	18	25	18	0	0	61		10.9	MS230	E 60091
7871	M	RV	PO		S	58	58	N		P		1	25.9	0	0	0	0	25.9		7.9	HS20	A 41099
78728E	M	RO	WG		C	81	83	C		C		3	41.5	52	41.5	0	0	135	-60	13	MS230	A 1521896
78728W	M	RO	WG		C	81	83	C		C		3	41.5	52	41.5	0	0	135	-60	13	MS230	A 1521896
78730	M	RV	WG		C	80	80	C		P		2	22	22	0	0	0	44		11	MS230	A 61099
78763	M	RV	FC		S	70	70	C		P		1	29	0	0	0	0	29		7.3	HS20	

78765	M	RV	FM		S	79	79	H		P		1	38	0	0	0	0	38	-25	10.7	MS23	A 72099
78796	S	IC	SM		S	88	88	N		P		3	10	10	10	0	0	30		7.6	MS230	E 4092
78798	S	IC	SM		S	85	85	N		P		5	8	11	11	11	8	49	30	7.6	MS230	E 3092
78799	S	IC	SM		S	85	85	N		P		4	8	10	10	8	0	36		7.6	MS230	E 3092
78802N	M	GS	WG		C	95	96	A		C		3	34	34	28	0	0	96		7.7	CS750	A 714099
78802S	M	GS	WG		C	95	96	A		C		3	34	34	28	0	0	96		10.4	CS750	A 714099
78808	M	RO	RD		S	78	79	H		P		3	22.9	24.4	21.3	0	0	68.6	50	14.6	HS25	A 72099
78832	M	RV	FM		S	80	81	C		P		3	10	38	10	0	0	58	25	9.1	MS230	E 3495
78896	M	RV	FC		S	68	68	J		P		3	21.3	24.4	21.3	0	0	67		15.8	HS20	A 134099
78898	M	RV	TH	DBT	S	50	87	T	N	T	P	3	23	76.2	24	0	0	123.2		6.7	MS300	A 34099
78996	S	RV	SM		S	89	89	N		P		3	10	10	10	0	0	30	30	7.6	MS230	E 5099
79044	S	RV	SMO		P	79	79	F		P		3	6	11	11	0	0	28	-15	11.3	CS750	A 20099
79128	S	RV	SM		S	79	79	A		P		3	6	8	6	0	0	20		10.1	MS23	A 81099
79201N	M	RV	RM		S	81	81	C		P		3	14.7	25	14.7	0	0	54.4	-7	8	MS230	
79201S	M	RV	RM		S	81	81	C		P		3	14.7	25	14.7	0	0	54.4	-7	8	MS230	
7922	M	RV	DBT		S	83	83	N		P		1	42	0	0	0	0	42		8.3	MS300	A 160099
79230	M	RO	WG		C	82	83	C		C		4	20	28	28	20	0	96	34	9	MS230	E 10097
79262	M	RV	WG		C	85	86	A		C		3	19	22	19	0	0	60		11	MS300	A 192099
7931	M	RV	PM		S	70	70	A		P		4	16.8	16.8	16.8	16.8	0	67.2	15	8.2	HS20	A 19099
79324	M	GS	FM		S	82	82	H		P		1	35.2	0	0	0	0	35.2	20	12.1	MS250	A 93099
79325	M	RV	WG		C	83	84	E		C		3	13	18	13	0	0	44	-3	11	MS300	A 232099
79351	S	RV	SM		S	84	84	A		P		1	11	0	0	0	0	11	30	13.7	MS23	A 729099
79375	M	RV	LF		S	81	81	A		P		1	38.1	0	0	0	0	38.1		7.3	HS25	E 3495
7938	M	RV	FM		S	78	79	H		P		3	10	38	10	0	0	58	-10	10.7	MS23	A 32099
79432	M	RV	FM		S	81	81	H		P		1	34	0	0	0	0	34	20	11.4	MS230	E 60091
79436	M	RO	WG		C	83	84	C		C		3	14	16	14	0	0	44		9	MS300	A 78099
79439	M	GS	FM	VM	S	81	81	C	C	P	P	3	8	29.6	8	0	0	45.6	-20	4.3	SP164	E 1494
79441N	M	RO	WG		C	82	83	E		C		3	25	31	25	0	0	81	52	11.5	MS300	A 1081099
79441S	M	RO	WG		C	83	84	E		C		3	25	31	25	0	0	81	52	11.5	MS300	A 1081099
79443	M	RV	LF		S	78	79	H		P		1	38.1	0	0	0	0	38.1		13.7	HS25	A 646099
79464	M	GS	WG		C	84	85	H		C		2	38.5	38.5	0	0	0	77	-12	17	MS300	A 447099
79472	M	RV	WG		C	81	83	C		C		3	37.7	47	37.7	0	0	122.4		11	MS400	A 43099
79473	M	RV	WG		C	84	85	C		C		2	44	44	0	0	0	88		13	MS400	A 89099
79476	S	IC	SM		S	84	84	N		P		3	11	11	11	0	0	33		8.8	MS230	E 7093
79477	M	GS	RM		S	83	83	H		P		1	22	0	0	0	0	22	-29	13.7	MS300	A 225099
79481	M	GS	WG		C	95	95	A		C		3	27	30	37	0	0	94		16	CS750	A 1862193
79535E	S	IC	SM		S	81	81	A		P		1	11	0	0	0	0	11	15	13.7	MS23	A 1145099
79553	M	RV	DBT		S	83	83	N		P		1	42	0	0	0	0	42		7.7	MS300	E 2099
79564	M	GS	CBT		C	82	96	H		P		2	41	42	0	0	0	83		21.2	CS750	E 12088
79565	S	IC	SM		S	88	88	C		P		3	11	11	11	0	0	33	21	7.5	MS230	E 2592
79566	S	IC	SM		S	88	88	N		P		4	11	11	11	11	0	44	-45	8.8	MS230	E 4092
79567	S	IC	SM		S	88	88	C		P		3	11	11	11	0	0	33	-15	7.6	MS230	E 2091
79568	M	IC	DBT		S	83	83	N		P		1	34	0	0	0	0	34		8.1	MS230	E 3092
79569	S	IC	SM		S	84	84	N		P		4	10	10	10	10	0	40		8.8	MS230	E 2592
79570	S	IC	SM		S	84	84	N		P		3	11	11	11	0	0	33		8.8	MS230	E 3092
79573	S	IC	SM		S	85	85	N		P		4	10	10	10	10	0	40	30	7.6	MS230	E 2093
79575	S	IC	SM		S	86	86	N		P		3	11	10	11	0	0	32	-23	8.8	MS230	E 8093

79576	S	IC	SM		S	86	86	N		P		3	10	11	10	0	0	31		7.6	MS230	E 1093
79580	S	IC	SM		S	89	89	N		P		4	10	10	10	10	0	40		7.6	MS230	E 5893
79581	S	IC	SM		S	84	84	N		P		4	8	10	10	8	0	36		8.8	MS230	E 3693
79582	S	IC	SM		S	84	84	C		P		4	11	11	11	11	0	44	-30	8.8	MS230	E 12589
79657	M	IC	SMC		C	84	84	E		P		3	10	10	10	0	0	30	15	13.2	MS300	A 243099
79661	S	RV	SM		S	84	84	A		P		1	11	0	0	0	0	11		8.8	MS23	A 28099
79671	M	RV	FM	VM	S	81	81	C	C	P	P	3	8	29.6	8	0	0	45.6		4.3	SP164	E 1494
79710	M	RV	WG		C	85	86	A		C		2	22	35	0	0	0	57		11.8	MS400	A 63099
79742	S	RV	SM		S	86	86	C		P		1	11	0	0	0	0	11		8.5	MS230	E 5097
79760	M	GS	WG		S	85	85	A		C		1	39.4	0	0	0	0	39.4	17	11	MS300	A 72099
79761	M	IC	WG		C	82	83	C		C		2	22	22	0	0	0	44	-4	13.5	MS300	A 159099
79766	M	GS	FM	CV	S	83	83	H		P		5	25	6	27	6	25	89		11	MS300	A 84099
7978	M	RV	RB		H	56	56	E		C		3	27.4	27.4	27.4	0	0	82.2	-30	7.3	HS20	E 50096
79781	S	IC	SM		S	87	87	N		P		3	10	11	10	0	0	31	20	8.9	MS230	E 1899
79785	S	IC	SM		S	86	86	N		P		3	8	10	8	0	0	26		7.6	MS230	E 3093
79786	S	IC	SM		S	86	86	C		P		3	8	11	8	0	0	27		7.6	MS23	E 3593
79787	S	IC	SM		S	86	86	N		P		3	11	11	11	0	0	33		7.6	MS230	E 4593
79788	S	IC	SM		S	85	85	N		P		4	8	10	10	8	0	36	-21	8.8	MS230	E 4093
80121	M	IC	PJ		S	0	0	C		P		1	15.2	0	0	0	0	15.2		6.4		E 15691
80122	M	IC	PJ		S	0	0	C		P		1	19	0	0	0	0	19		6.2		E 4096
80134	M	IC	PJ		C	0	0	C		C		1	15.7	0	0	0	0	15.7		6.4		E 17391
80135	M	IC	PJ		S	0	0	C		C		1	15.7	0	0	0	0	15.7		6.4		E 3096
80152	M	IC	PJ		C	0	0	C		C		1	15.8	0	0	0	0	15.8		6.4		E 2592
80153	M	IC	PJ		S	0	0	C		C		1	15.8	0	0	0	0	15.8		6.4		E 2592
80207	S	IC	SM		S	84	84	N		P		4	10	10	10	10	0	40		8.8	MS230	
80208	S	IC	SM		S	88	88	N		P		5	11	11	11	11	11	55	-50	7.6	MS230	E 4093
80209	S	IC	SM		S	84	84	N		P		4	10	10	10	10	0	40	-5	7.6	MS230	
80210	S	IC	SM		S	84	84	N		P		4	11	11	11	11	0	44	-15	7.6	MS230	
80211	S	IC	SM		S	84	84	N		P		4	10	10	10	10	0	40		8.8	MS230	
80212	S	IC	SM		S	84	84	N		P		4	11	11	11	11	0	44	-30	7.6	MS230	
80219	S	IC	SM		S	85	85	N		P		3	11	11	11	0	0	33		7.6	MS230	E 7093
80220	S	IC	SM		S	85	85	N		P		3	11	11	11	0	0	33		7.6	MS230	E 7093
80221	S	IC	SM		S	85	85	N		P		4	10	10	10	10	0	40	-30	7.6	MS230	E 7093
80223	S	IC	SM		S	85	85	N		P		4	8	10	10	8	0	36	-21	7.6	MS230	E 4093
80224	S	IC	SM		S	85	85	C		P		3	11	11	11	0	0	33		10	MS230	A 31099
80225	S	IC	SM		S	85	85	N		P		3	11	11	11	0	0	33		8.8	MS230	E 7093
80226	S	IC	SM		S	88	88	N		P		4	10	10	10	10	0	40		7.6	MS230	E 2591
80227	S	IC	SM		S	88	88	N		P		3	11	11	11	0	0	33		7.6	MS230	E 6091
80228	S	IC	SM		S	88	88	N		P		3	11	11	11	0	0	33	-9	7.6	MS230	E 3091
80232	S	IC	SM		S	85	85	N		P		3	11	11	11	0	0	33		7.6	MS230	E 2093
80234	S	IC	SM		S	89	89	N		P		3	11	11	11	0	0	33		7.6	MS230	E 3693
80269	S	IC	SM		S	88	88	N		P		4	8	11	11	8	0	38	30	8.8	MS230	E 4091
80270	S	IC	SM		S	89	89	N		P		3	11	11	11	0	0	33		7.6	MS230	E 4093
80271	S	IC	HC		S	69	89	N		P		3	10.1	10.1	10.1	0	0	30.3	11	8.2	HS20	E 4093
80272	S	IC	SM		S	86	86	N		P		4	11	11	11	11	0	44	-30	8.8	MS230	E 7093
80273	S	IC	SM		S	86	86	N		P		4	10	10	10	10	0	40	-10	8.8	MS230	E 7093
80275	S	IC	SM		S	87	87	N		P		3	11	11	11	0	0	33	15	8.8	MS230	E 8995

80277	S	IC	SM		S	89	89	N		P		5	10	10	10	10	10	50		7.6	MS230	E 8195
80278	S	IC	SM		S	89	89	N		P		5	10	10	10	10	10	50	30	7.6	MS230	E 6795
8028	M	RV	RB		C	61	61	H		C		3	15.8	19.5	15.8	0	0	51.1	-15	13.4	HS20	A 385099
80288	S	IC	SM		S	82	89	N		P		4	6	8	8	6	0	28		7.7	MS230	E 1689
80289	S	IC	SM		S	86	86	R		P		3	11	10	11	0	0	32	30	8.9	MS230	E 15096
80290	S	IC	SM		S	87	87	C		P		2	11	11	0	0	0	22	-30	5.6	MS230	E 2089
80291	S	IC	SM		S	87	87	C		P		2	11	11	0	0	0	22	1	6.5	MS230	E 2089
80292	S	IC	SM		S	87	87	N		P		3	11	10	11	0	0	32		8.9	MS230	E 4699
80296	S	IC	SM		S	87	87	N		P		3	8	11	8	0	0	27		7.8	MS230	E 2099
80299	S	IC	SM		S	86	86	N		P		3	11	10	11	0	0	32		8.9	MS230	E 6999
80301	S	IC	SM		S	86	86	C		P		3	8	11	8	0	0	27	-30	5.4	MS230	E 3889
80325	S	IC	SM		S	85	85	N		P		3	8	11	8	0	0	27		7.6	MS230	E 2593
80326	S	IC	SM		S	86	86	N		P		3	11	11	11	0	0	33		7.6	MS230	E 1593
80327	S	IC	SM		S	86	86	N		P		3	11	11	11	0	0	33	30	8.8	MS230	E 4088
80328	S	IC	SM		S	89	89	N		P		4	8	11	11	11	0	41	-12	7.6	MS230	E 2592
80329	S	IC	SM		S	86	86	N		P		3	10	11	10	0	0	31		7.6	MS230	E 293
80334	S	IC	SM		S	89	89	N		P		4	10	11	11	10	0	42	-17	7.6	MS230	E 2592
80335	S	IC	SM		S	84	84	N		P		4	10	10	10	10	0	40		8.8	MS230	
80336	S	IC	SM		S	84	84	N		P		4	10	10	10	10	0	40	4	7.6	MS230	
80337	S	IC	SM		S	84	84	N		P		4	10	10	10	10	0	40		7.6	MS230	
80338	S	IC	SM		S	84	84	N		P		4	10	10	10	10	0	40		7.6	MS230	
80339	S	IC	SM		S	84	84	C		P		4	10	10	10	10	0	40		8.8	MS230	
80340	S	IC	SM		S	85	85	N		P		4	10	10	10	10	0	40		7.6	MS230	
80341	S	IC	SM		S	85	85	N		P		4	10	10	10	10	0	40		7.6	MS230	
80342	S	IC	SM		S	85	85	N		P		4	11	11	11	11	0	44	-21	7.6	MS230	
80352	S	IC	SM		S	90	90	N		P		3	8	8	8	0	0	24	35	7.6	MS230	E 0589
80354	S	IC	SM		S	90	90	N		P		2	11	11	0	0	0	22	30	8.8	MS230	E 3389
80355	S	IC	SM		S	90	90	N		P		3	10	8	10	0	0	28		7.6	MS230	E 2589
80356	S	IC	SM		S	90	90	N		P		2	8	10	0	0	0	18		7.6	MS230	E 2089
80357	S	IC	SM		S	90	90	N		P		3	8	11	8	0	0	27	30	7.6	MS230	E 3589
8036	M	RV	RB		C	59	59	H		C		3	19.5	24.4	19.5	0	0	63.4		7.3	HS20	A 30098
80403	S	IC	SM		S	84	84	A		P		3	11	11	11	0	0	33	-30	10	MS230	A 42099
80418	S	IC	SM		S	86	86	C		P		3	10	10	10	0	0	30		5.4	MS230	
80445	S	IC	SM		S	89	89	C		P		4	11	11	11	11	0	44	-30	7.6	MS230	
80454	S	IC	SM		S	89	89	N		P		4	8	10	10	8	0	36		8.8	MS230	A 10099
8062	S	IC	SC		S	92	92	N		P		3	12	10	12	0	0	34		8	CS750	E 3091
80643	M	GS	WG		C	86	88	A		C		2	60	52	0	0	0	112	42	7.6	MS300	A 338099
80644E	M	RV	DBC		S	92	92	A		P		1	40	0	0	0	0	40	20	12.5	CS750	A 550099
80644W	M	RV	DBT		S	86	87	A		P		1	40	0	0	0	0	40	20	13.2	MS300	A 550099
80657	M	RO	WG		C	69	69	C		C		7	25	25	25	43.3	18.3	186.6		4.9	SP069	E 15094
80757	M	GS	WG		C	85	86	A		C		2	40	30	0	0	0	70	42	11.8	MS300	
8077	M	RV	RD		S	75	75	A		P		3	24.4	24.4	24.4	0	0	73.2		8.5	HS25	A 10099
80838	S	IC	SM		S	84	84	N		P		2	11	11	0	0	0	22		5.5	MS230	E 1890
80845	M	RV	DBT		C	87	87	A		P		2	26	26	0	0	0	52		11	MS400	E 30094
80846	M	RV	WG		C	87	88	A		C		3	34	42	34	0	0	110	-25	11	MS400	E 30094
80878	S	RV	SM		S	89	89	C		P		3	10	10	10	0	0	30	20	7.6	MS230	E 5099
80915	S	IC	SM		S	86	86	C		P		2	10	10	0	0	0	20	-15	5.4	MS230	E 0289

80919	S	IC	SM		S	86	86	C		P		3	11	11	11	0	0	33		5.4	MS230	
80920	S	IC	SM		S	87	87	N		P		3	11	11	11	0	0	33		8.8	MS230	E 1799
80946	M	GS	WG		C	87	88	A		C		2	42	42	0	0	0	84	-19	7.6	MS300	A 338099
80947	S	IC	SM		S	89	89	N		P		3	11	11	11	0	0	33		6.6	MS230	E 591
80961	S	IC	SM		S	86	86	C		P		2	10	10	0	0	0	20		5.4	MS230	E 0589
80965	M	GS	WG		C	92	93	A		C		2	42	42	0	0	0	84	-21	19.4	CS750	A 241099
81034	M	RO	DBT		C	86	87	A		P		3	20	28	20	0	0	68	27	10.1	MS300	E 25000
81102	M	RV	WG		C	87	88	C		C		3	20	36	20	0	0	76		9	MS350	E 5099
81103	M	RV	WG		S	87	88	C		C		1	42	0	0	0	0	42	10	9	MS350	E 9399
81129	M	RV	WG		C	91	93	A		C		4	63	78	78	63	0	282		11	CS999	E 20095
81131	M	RV	WG		C	87	88	A		C		3	43	54	43	0	0	140	-20	9	MS300	A 58099
81204	S	IC	SM		S	88	88	N		P		5	11	11	11	11	11	55	40	9.9	MS230	A 17099
81237	M	RV	CBC		C	89	91	A		P		2	40	40	0	0	0	80		9.5	CS750	A 50099
81239	M	RV	WG		C	89	92	A		C		7	82	112	112	112	92	734	-25	11	CS999	A 67099
81241	M	RV	WG		C	89	90	A		C		3	18	22	18	0	0	58		9	CS750	E 25091
81282E	M	RO	CBT		S	89	89	A		P		1	20	0	0	0	0	20	-32	10.8	MS300	A 67099
81282W	M	RO	CBT		S	89	89	A		P		1	20	0	0	0	0	20	-29	11	MS300	A 67099
81284	M	RV	CBC		C	90	91	C		P		3	21	26	21	0	0	68		11	CS750	E 10000
81287	M	RV	WG		C	89	90	C		C		2	34	26	0	0	0	60		9	CS750	E 7099
8132	M	RV	WG		C	50	83	C		P		4	53.9	53.9	53.9	53.9	0	215.6		7.5	MS230	A 22099
81351	M	GS	CBC		C	90	91	A		P		2	22	22	0	0	0	44		10	CS750	A 152587
81464	M	RO	CBT		S	89	89	A		P		1	18.6	0	0	0	0	18.6	6	24.6	MS300	E 50099
81532	M	RV	SCC		C	93	93	I		P		3	12	12	12	0	0	36		11.9	CS750	E 9094
81533	M	RV	SCC		C	92	92	J		P		4	12	12	12	10	0	46		13.4	CS750	E 25095
81555E	M	RV	WG		C	96	97	A		C		3	52	66	52	0	0	170	15	12.4	CS750	A 900099
81555W	M	RV	WG		C	96	97	A		C		3	52	66	52	0	0	170	15	12.4	CS750	A 900099
81556W	M	GS	WG			96	97			C		3	35	60	40	0	0	135	65	12.4	CS750	A 900099
81584	M	RV	SMC		C	89	90	A		P		15	10	12.6	12.6	12.6	10	182.5		9.6	MS300	A 93099
81588E	M	GS	WG		C	93	94	A		C		2	34	34	0	0	0	68		16.1	CS750	A 900099
81588W	M	GS	WG		C	93	94	A		C		2	34	34	0	0	0	68		12.4	CS750	A 900099
8170	S	RV	PG			55	55	C		P		1	6.1	0	0	0	0	6.1		6.4	HS20	E 10087
81798	M	RV	SCC		C	92	92	I		P		2	12	12	0	0	0	24		11.9	CS750	E 25095
81894E	M	GS	CBC			96	97			P		1	33.5	0	0	0	0	33.5	5	12.4	CS750	A 900099
81894W	M	GS	CBC			96	97			P		1	33.5	0	0	0	0	33.5	2	12.4	CS750	A 900099
81897	M	RV	WG		C	92	93	I		C		4	42	52	52	42	0	188		9	CS750	A 19099
8196	M	RV	WG		C	58	87	A		C		4	34	24.8	24.9	28	0	111.7	30	13	MS300	A 133099
820	M	RV	DBC		C	97	97			C		3	20	26	20	0	0	66	-30	9	CS750	A 146099
8244	C	RV	RPA		S	97	97	A		P		1	5.2	0	0	0	0	26.8		11.8	HS20	A 107099
8246	S	RV	HC		S	64	64	F		P		3	6.1	6.1	6.1	0	0	18.3		11	HS20	A 204099
826	S	RV	PGO		S	60	60	C		P		1	8.5	0	0	0	0	8.5		15.6	HS20	A 227099
8261	M	RV	WG		C	85	85	C		C		3	21	24	21	0	0	66	50	8.5	MS300	E 50089
8303	M	RV	PO		S	60	60	J		C		3	18.3	18.3	18.3	0	0	54.9		9.1	HS20	A 145099
8340	M	RV	SMC		C	85	85	C		P		3	8	11	8	0	0	27	15	9.6	MS300	A 73099
835	M	RV	RD		S	75	75	A		P		3	15.2	15.2	15.2	0	0	45.6	-20	9.1	HS25	E 20088
8353	S	RV	SMO		P	83	83	C		P		3	8	8	8	0	0	24		12.5	CS750	A 185099
8414	S	RV	SM		S	88	88	N		P		2	6	6	0	0	0	12		11.9	MS225	A 137099
8435E	M	RV	CT		C	56	56	A		C		3	128	183	128			439		134	HS20	A 445098

8459	M	RV	WG		C	87	88	N		C		3	17	22	17	0	0	56		9	MS300	A 55099
847	M	RV	SCC		C	95	95	I		P		3	12	12	12	0	0	36		10	CS750	A 88099
8487	M	RV	FM		S	81	81	N		P		2	32	32	0	0	0	64		9	MS230	E 4097
8495	M	RV	RB		S	58	58	E		C		3	15.2	15.2	15.2	0	0	45.6		7.9	HS20	A 110099
851	M	RV	PM		S	72	72	C		P		3	15.2	18.3	15.2	0	0	48.7		8.2	HS20	E 10091
8558	S	RV	VS		S	74	74	A		P		3	9.1	9.1	9.1	0	0	27.3		11.3	HS25	A 109099
8641	M	RV	FC		S	67	67	J		C		3	12.2	25.9	12.2	0	0	50.3		9.1	HS20	A 168099
8707	M	RV	WG		C	80	81	C		C		3	16	26	16	0	0	58	-15	9	MS230	A 22099
8708	M	RV	PM			51	71	A		P		1	9.1	0	0	0	0	9.1		8.6	HS20	E 10097
8719	M	RV	RB		S	54	54	E		C		3	15.2	18.3	15.2	0	0	48.7	45	8.5	HS20	A 142099
873	M	IC	SMC		S	86	86	A		P		4	11	11	11	11	0	44	-32	12.1	MS300	A 473099
875	M	RV	DBT		S	87	88	A		P		1	42	0	0	0	0	42		13.2	MS350	A 166099
876	M	RV	PM		S	69	69	A		P		3	15.2	15.2	15.2	0	0	45.6		11	HS20	A 447099
8779	M	RV	WG		C	88	88	A		C		3	24.3	30.5	24.3	0	0	79.1		15.5	MS300	A 443099
878	M	RV	PM		S	63	63	C		P		3	12.2	16.8	12.2	0	0	41.2		9.1	HS20	E 16095
8781	M	RV	PM	PE		64	64	N	N	P	P	3	12.2	16.8	12.2	0	0	41.2		8.2	HS20	A 35099
8792	M	RV	CF		S	65	65	A		C		1	12.2	0	0	0	0	12.2		13.4	HS20	A 646099
8800	M	RV	PO		S	62	62	A		C		4	34.1	34.1	34.1	34.1	0	136.4		7.9	HS20	A 85099
8822	S	RV	SM		S	86	86	N		P		3	8	10	8	0	0	26	-10	8.8	MS230	E 10089
8839	M	RV	DBT		S	85	85	N		P		1	34	0	0	0	0	34	-10	8.3	MS300	E 5096
8866	S	RV	HC		S	67	67	A		P		3	10.1	10.1	10.1	0	0	30.3		10	HS20	A 40099
887	M	RV	CT		C	57	57	H		C		5	27.4	37.8	37.8	37.8	27.4	168.2		9.1	HS20	A 205099
8987	M	RV	RB	HC		73	73	C	N	C	P	3	8.5	24.4	8.5	0	0	41.4	15	7.3	HS20	E 5087
9001	S	RV	SC		S	93	93	N		P		3	10.7	12.2	10.7	0	0	33.6		8	CS750	A 80099
903	M	RV	RB		S	54	54	H		C		5	18.3	24.4	24.4	24.4	21.3	112.8		9.1	HS20	A 112099
904	M	RV	RB		S	54	54	H		C		3	15.2	24.4	15.2	0	0	54.8		9.1	HS20	A 112099
9096	M	RV	PM			63	63	A		P		3	15.2	15.2	15.2	0	0	45.6	-30	9.1	HS20	A 30099
9099	M	RV	PO		S	59	59	J		P		1	30.5	0	0	0	0	30.5		7.3	HS20	A 55099
9116	M	RV	SCC		C	93	93	C		P		3	12	12	12	0	0	36		11.9	CS750	A 159099
915	M	RV	SCC		S	96	96	I		P		1	14	0	0	0	0	14		13.4	CS750	A 167099
9199	M	RV	SCC		S	93	93	I		P		1	14	0	0	0	0	14	-15	11.9	CS750	A 120099
9204	M	RV	PQ		S	56	56	A		P		3	15.2	15.2	15.2	0	0	45.6		7.3	HS20	A 84099
9216	S	RV	HC			69	69	N		P		3	6.1	8.5	6.1	0	0	20.7		7.4	HS20	E 3897
9219W	M	RV	DBT		S	82	83	H		P		1	300					300		131	MS300	A 816098
9230	M	RV	FC	HC	S	65	65	N	N	P	P	3	8.5	24.4	8.5	0	0	41.4		7.3	HS20	
9259	M	RV	VF		S	76	76	J		P		2	36.6	36.6	0	0	0	73.2	20	8.5	HS25	A 56099
9309	M	RV	WG		C	87	88	A		C		3	16	19	16	0	0	51	30	9	MS300	A 49099
9333	M	RV	FCO	CBC	S	69	98	C	I	P	P	5	20	29	29	29	29	136		8.6	CS615	A 35099
9337	M	RV	PE			64	64	R		P		3	12.8	12.8	12.8	0	0	38.4		11	HS20	A 156099
934	S	RV	HC		S	63	63	N		P		1	11.6	0	0	0	0	11.6		10.1	HS20	A 21099
9343	M	RV	DBC		S	89	90	N		P		3	18	18	18	0	0	54		9.1	CS750	
9345	M	RV	DBT		S	83	84	H		P		2	34	42	0	0	0	76	-30	10.7	MS300	A 42099
9346	M	RV	FM		S	83	83	H		P		1	38	0	0	0	0	38		11	MS230	A 42099
9399	M	RV	FR		C	95	95	A		C		3	17	22	17	0	0	56	-45	10	CS750	A 146099
945	M	RV	DBT		S	82	83	C		P		3	14	16	16	0	0	46		8.6	MS230	E 12495
9464	M	RV	SCC		C	94	94	C		P		3	13	14	13	0	0	40		9.5	CS750	A 18099
9474	M	RV	PMO		S	71	71	J		P		3	12.2	15.2	12.2	0	0	39.6		7.3	HS20	A 20099

9487	M	RV	WG		C	21	71	A		C		4	50.9	50.9	50.9	50.9	0	203.6	-17	7.3	HS20	A 20099
9551	M	RV	TH	RB		59	59	R	A	C	C	4	27.4	61	61	27.4	0	176.8		7.3		A 160099
9590	M	RV	WG		C	58	79	N		C		2	49	53	0	0	0	102		9	MS23	E 12494
9591	M	RV	PM			72	72	A		P		3	12.2	13.7	10.7	0	0	36.6	15	8.2	HS20	A 35099
9596	M	RV	PM			70	70	A		P		3	13.7	16.8	13.7	0	0	44.2		9.1	HS20	A 124099
962	M	RV	RB		C	62	62	P		C		3	14.6	18.3	14.6	0	0	47.5		7.9	HS20	A 40099
9755	C	RV	SP			99	99	A	A		C	1	8.5	0	0	0	0	64	-11	8		A 86099
977	M	RV	WG		C	77	78	E		C		4	45.7	56.4	56.4	45.7	0	204.2	25	11	HS25	A 491099
983	M	RV	PO		S	59	59	A		P		2	21.3	21.3	0	0	0	42.6		7.9	HS20	A 106099
9836	S	RV	VH			74	74	A		P		1	6.1	0	0	0	0	6.1		13.7	HS25	A 318099
9847	M	RV	TH	SC	S	44	44	E	C	C	C	6	8.5	8.5	53.3	53.3	53.3	230.4		5.7		A 179099
9850	M	RV	DBT		S	85	85	N		P		3	16	38.5	16	0	0	70.5		8.6	MS300	E 10094
988	S	RV	SM		S	87	87	C		P		1	11	0	0	0	0	11	15	7.6	MS23	E 2089
9899	M	RV	RB		C	55	72	A		C		3	219	274	219			712		134	HS20	A 455098
9903	M	RV	RB	SM	S	56	56	Z	A	C	C	3	11.3	27.4	27.4	0	0	66.1	-43	10	HS20	E 10096
9910	M	RV	RB		C	58	58	E		C		2	21.3	18.3	0	0	0	39.6		11	HS20	A 241099
992	M	RV	RB		C	55	55	E		C		3	21.9	27.4	21.9	0	0	71.2		7.3	HS20	A 55099
9939	S	RV	HC		S	72	72	F		P		3	11.6	11.6	11.6	0	0	34.8		9.3	HS20	A 182099
9943	M	RV	RB		C	64	64	E		C		5	21	25	21	16.8	16.8	100.6		8.2	HS20	A 15099
999	M	RV	CT		C	56	56	P		C		3	19.5	24.4	19.5	0	0	63.4		7.3	HS20	E 8097

AVERAGE CSE TEST RESULTS

FileNumber	TestDate	NoOfRdgs	AvgCSE	StDev	StErr	CoeffVar
00493W	1978	312	0.335	0.071	0.004	21
00756N	1977	828	0.085	0.051	0.002	60
00756N	1981	1232	0.147	0.065	0.002	44
00756N	1987	1221	0.166	0.077	0.002	47
00756N	1991	1221	0.226	0.044	0.001	19
00756N	1997	1221	0.151	0.077	0.002	51
06985E	1988		0	0	0	0
06985E	1998	410	0.105	0.055	0.003	53
06985W	1977	328	0.175	0.108	0.006	62
06985W	1978	439	0.266	0.07	0.003	26
06985W	1978	471	0.241	0.056	0.003	23
06985W	1979	461	0.243	0.074	0.003	30
06985W	1980	475	0.292	0.058	0.142	645
06985W	1982	459	0.244	0.061	0.003	25
06985W	1988		0.194	0.06	0	0
06985W	1992	458	0.167	0.07	0.003	42
06985W	1996	463	0.197	0.081	0.004	41
08435E	1978	444	0.215	0.073	0.003	34
08435E	1983	444	0.28	0.081	0.004	29
08435E	1986		0.334	0.086	0	0
08435E	1987		0.38	0.084	0	0
08435E	1988	444	0.282	0.072	0.003	25
08435E	1992	444	0.291	0.063	0.003	22
08435E	1999	444	0.262	0.078	0.004	30
08435W	1988		0	0	0	0
08435W	1999		0	0	0	0
09219E	1977		0.161	0.073	0	0
09219E	1985	273	0.344	0.102	0.006	30
09219E	1990		0.283	0.1	0	0
09219W	1985	312	0.231	0.073	0.004	31
09219W	1989	312	0.218	0.086	0.005	39
09219W	1997	300	0.172	0.069	0.004	40
09469N	1979	385	0.242	0.059	0.003	24
09469N	1984	385	0.357	0.049	0.002	14
09469N	1986	385	0.298	0.052	0.003	18
09469N	1988	385	0.211	0.074	0.004	35
09469N	1992	385	0.21	0.047	0.002	23
09469N	1996	385	0.218	0.088	0.004	40
09469N	2000	385	0.207	0.048	0.002	23
09469S	1979	385	0.241	0.065	0.003	27
09469S	1984	385	0.357	0.056	0.003	16
09469S	1986	385	0.331	0.058	0.003	17
09469S	1988	385	0.184	0.071	0.004	39
09469S	1992	385	0.191	0.059	0.003	31
09469S	1996	385	0.23	0.084	0.004	36
09469S	2000	385	0.239	0.059	0.003	25
09899W	1979	720	0.237	0.114	0.004	48
09899W	1983	720	0.272	0.118	0.004	43
09899W	1986	720	0.345	0.073	0.003	21

09899W	1990	720	0.215	0.119	0.004	55
09899W	1994	720	0.243	0.082	0.003	34
09899W	1998	720	0.23	0.1	0.004	44
102	1998		0	0	0	0
1053	1978	216	0.255	0.128	0.009	50
1053	1983	208	0.118	0.131	0.009	99
1053	1987		0.124	0.145	0	0
1053	1991	208	0.104	0.134	0.009	129
1053	1995	208	0.153	0.131	0.009	86
1053	2000	208	0.168	0.073	0.005	43
1062	1979	496	0.071	0.05	0.002	70
1062	1985	488	0.086	0.056	0.003	65
1062	1990	488	0.107	0.057	0.003	53
1062	1995	488	0.153	0.076	0.003	50
1062	2000	488	0.167	0.041	0.002	25
1085	1980	1088	0.236	0.058	0.002	25
1085	1983	552	0.267	0.066	0.003	25
1085	1986	1104	0.287	0.073	0.002	25
1085	1990	1104	0.307	0.087	0.003	28
1085	1994	1104	0.237	0.085	0.003	36
1085	1998	1112	0.279	0.062	0.002	22
1122	1978	448	0.183	0.08	0.004	44
1122	1983	424	0.285	0.042	0.002	15
1122	1986	424	0.252	0.04	0.002	16
1122	1990	424	0.248	0.043	0.002	17
1122	1995	424	0.207	0.042	0.002	20
1137	1980	272	0.047	0.069	0.004	99
1137	1986	272	0.085	0.061	0.004	72
1137	1990	272	0.035	0.065	0.004	187
1137	1995	272	0.081	0.059	0.004	73
1137	1999		0	0	0	0
1140	1999		0	0	0	0
1145	1977	560	0.167	0.081	0.003	48
1145	1985	864	0.284	0.087	0.003	31
1145	1990	873	0.328	0.125	0.004	38
1145	1994	864	0.39	0.076	0.003	20
1145	1998	864	0.229	0.074	0.003	32
1153	1979	728	0.045	0.035	0.001	78
1153	1985	712	0.085	0.068	0.003	80
1153	1990	728	0.124	0.073	0.003	59
1153	1994	712	0.155	0.074	0.003	48
1153	1998	720	0.184	0.078	0.003	42
1158	1978	396	0.221	0.121	0.006	55
1158	1982	378	0.204	0.131	0.007	64
1158	1987		0.307	0.128	0	0
1158	1991	504	0.27	0.067	0.003	25
1158	1995	504	0.198	0.056	0.002	28
1158	1999	504	0.194	0.052	0.002	27
1227	1981	472	0.101	0.045	0.002	45
1227	1989	480	0.206	0.06	0.003	29
1227	1994	480	0.201	0.06	0.003	30
1227	1999	480	0.264	0.058	0.003	22

1241	1981	495	0.118	0.052	0.002	44
1241	1989	495	0.131	0.049	0.002	37
1241	1993	495	0.09	0.056	0.003	62
1241	1997	495	0.068	0.056	0.003	82
1245	1978	800	0.229	0.086	0.003	38
1245	1982	794	0.297	0.056	0.002	19
1245	1983	801	0.373	0.066	0.002	18
1245	1987	796	0.326	0.068	0.002	21
1245	1991	794	0.243	0.065	0.002	27
1245	1995	792	0.264	0.07	0.002	26
1245	1999	796	0.245	0.059	0.002	24
1303	1978	516	0.212	0.081	0.004	38
1303	1979	510	0.102	0.045	0.002	44
1303	1980	497	0.198	0.051	0.002	26
1303	1981	498	0.186	0.051	0.002	27
1303	1983	549	0.168	0.043	0.002	26
1303	1987	501	0.19	0.048	0.002	25
1303	1991	492	0.18	0.05	0.002	28
1303	1995	500	0.182	0.045	0.002	25
1303	1999	502	0.148	0.057	0.003	39
13117	1977	338	0.293	0.157	0	54
13117	1978	494	0.297	0.133	0	45
13117	1979	475	0.241	0.075	0	56
13117	1980	481	0.288	0.088	0	30
13117	1982	468	0.302	0.059	0	20
13117	1984		0	0	0	0
13117	1987	468	0.25	0.059	0.003	24
13117	1991	468	0.286	0.085	0.004	30
13117	1995	471	0.262	0.095	0.004	36
13117	1999	473	0.334	0.087	0.004	26
13149	1979	333	0.21	0.068	0	32
13149	1983	333	0.183	0.085	0	46
13149	1987	333	0.243	0.093	0.005	38
13149	1991	333	0.252	0.086	0.005	34
13166	1980	651	0.147	0.052	0	36
13166	1986	651	0.15	0.067	0.003	45
13166	1990	651	0.177	0.066	0.003	37
13166	1994	651	0.211	0.099	0.004	47
13166	1999	658	0.219	0.088	0.003	40
13181	1978	376	0.313	0.092	0	29
13181	1979	368	0.217	0.091	0	42
13181	1983	349	0.287	0.1	0	35
13181	1986	350	0.309	0.088	0.005	29
13181	1990	358	0.326	0.122	0.006	38
13181	1995	357	0.376	0.072	0.004	19
13181	1999	358	0.351	0.074	0.004	21
13370	1979	1944	0.121	0.063	0	52
13370	1983	1953	0.188	0.08	0	43
13370	1987	981	0.183	0.062	0.002	34
13370	1991	972	0.158	0.057	0.002	36
13370	1995	972	0.145	0.045	0.001	31
13370	1999	981	0.161	0.049	0.002	30

1340	1982	368	0.077	0.045	0.002	58
1340	1996	368	0.034	0.035	0.002	103
13486	1981	366	0.178	0.051	0	29
13486	1989	362	0.196	0.066	0.003	33
13486	1993	362	0.171	0.073	0.004	43
13486	1996	363	0.222	0.076	0.004	34
135	1981	660	0.135	0.098	0.004	73
135	1987	650	0.152	0.038	0.001	25
135	1991	650	0.136	0.062	0.002	45
135	1995	650	0.18	0.046	0.002	26
135	2000	650	0.13	0.067	0.003	52
13587	1979	587	0.167	0.043	0	26
13587	1985	577	0.267	0.079	0.003	30
13587	1991	578	0.326	0.069	0.003	21
13587	1999	578	0.296	0.072	0.003	24
13625	1981	315	0.201	0.109	0	54
13625	1987	315	0.249	0.102	0.006	41
13625	1991	315	0.26	0.094	0.005	36
13625	1995	315	0.268	0.112	0.006	42
13625	2000	315	0.353	0.074	0.004	21
13742	1977	1372	0.131	0.041	0	31
13742	1981	1880	0.191	0.043	0	23
13742	1982	1896	0.156	0.038	0	24
13742	1989		0.347	0.079	0	0
13742	1993	944	0.226	0.099	0.003	44
13742	1998	944	0.203	0.066	0.002	33
13821	1977	375	0.121	0.079	0	65
13821	1985	537	0.2	0.063	0.003	31
13821	1990	539	0.225	0.077	0.003	34
13821	1999		0	0	0	0
13824	1979	410	0.425	0.086	0	20
13824	1987	400	0.342	0.041	0.002	12
13824	1988	400	0.237	0.046	0.002	19
13824	1997	400	0.262	0.051	0.003	20
13832	1980	189	0.428	0.106	0	25
13832	1983	324	0.383	0.103	0	27
13832	1986	189	0.419	0.11	0.008	26
13832	1990	189	0.316	0.06	0.004	19
13832	1994	315	0.282	0.094	0.005	33
13832	1999	315	0.307	0.097	0.005	32
13838	1984	510	0.132	0.042	0.002	32
13838	1989	510	0.162	0.054	0.002	33
13838	1993	510	0.112	0.068	0.003	61
13838	1999	510	0.128	0.089	0.004	70
13852	1981	162	0.077	0.046	0	60
13852	1989	157	0.157	0.062	0.005	40
13852	1993	157	0.228	0.062	0.005	27
13852	1997	158	0.211	0.054	0.004	26
1402	1980	287	0.064	0.074	0.004	99
1402	1986	294	0.072	0.052	0.003	72
1402	1995	294	0.132	0.061	0.004	46
1409	1978	396	0.119	0.083	0.004	70

1409	1983	380	0.146	0.107	0.005	73
1409	1989	440	0.173	0.11	0.005	63
1409	1993	440	0.188	0.097	0.005	52
1409	1997	440	0.129	0.121	0.006	94
1426	1978	660	0.145	0.04	0.002	27
1426	1983	648	0.135	0.05	0.002	37
1426	1987	648	0.152	0.054	0.002	36
1426	1991	648	0.101	0.055	0.002	55
1426	1995	648	0.15	0.074	0.003	49
1426	2000	648	0.144	0.069	0.003	48
1427	1978	680	0.113	0.075	0.003	66
1427	1983	656	0.113	0.084	0.003	73
1427	1987	656	0.161	0.108	0.004	67
1427	1991	656	0.136	0.053	0.002	39
1427	1999	656	0.11	0.069	0.003	63
1432	1980	408	0.155	0.058	0.003	37
1432	1986	392	0.156	0.043	0.002	28
1432	1996	400	0.107	0.058	0.003	55
149	1981	368	0.109	0.043	0.002	39
149	1989	362	0.133	0.049	0.003	37
149	1993	363	0.126	0.051	0.003	41
149	1997	364	0.086	0.058	0.003	67
1493	1980	363	0.125	0.069	0.004	55
1493	1986	363	0.397	0.084	0.004	21
1493	1990	366	0.304	0.079	0.004	26
1493	1994	366	0.321	0.086	0.004	27
1517	1978	522	0.26	0.066	0.003	25
1517	1982	504	0.322	0.082	0.004	25
1517	1986	504	0.38	0.09	0.004	24
1517	1990	504	0.416	0.068	0.003	16
1517	1994	504	0.468	0.074	0.003	16
1517	1998	504	0.529	0.047	0.002	9
1536	1982	168	0.323	0.115	0.009	36
1606	1979	702	0.122	0.024	0.001	20
1606	1984	684	0.123	0.029	0.001	24
1606	1989	684	0.104	0.033	0.001	32
1606	1993	684	0.117	0.034	0.001	29
1606	1997	684	0.125	0.055	0.002	44
1632	1984	456	0.157	0.038	0.002	24
1632	1989	456	0.118	0.043	0.002	37
1632	1993	456	0.172	0.041	0.002	24
1632	1997	456	0.184	0.057	0.003	31
1664	1982	520	0.113	0.049	0.002	43
1664	1998		0	0	0	0
1669	1982	368	0.062	0.074	0.004	99
1669	1992	368	0.075	0.049	0.003	66
1669	1996	368	0.071	0.068	0.004	96
167	1981	427	0.223	0.054	0.003	24
167	1989	427	0.336	0.083	0.004	25
167	1993	427	0.284	0.055	0.003	19
167	1997	427	0.287	0.053	0.003	18
1694	1984	296	0.114	0.029	0.002	25

1694	1996	304	0.258	0.07	0.004	27
1741	1980	640	0.044	0.042	0.002	95
1741	1985	712	0.145	0.052	0.002	36
1741	1990	712	0.105	0.094	0.004	90
1741	1994	712	0.17	0.09	0.003	53
1741	1998	712	0.246	0.097	0.004	39
1766	1981	207	0.288	0.059	0.004	20
1766	1986	207	0.319	0.076	0.005	24
1766	1990	351	0.356	0.099	0.005	28
1766	1994	351	0.33	0.074	0.004	22
1766	2000	351	0.22	0.075	0.004	34
1767	1980	430	0.238	0.222	0.004	32
1767	1981	450	0.242	0.086	0.004	36
1767	1991	440	0.195	0.078	0.004	40
1767	1996	440	0.182	0.081	0.004	45
1797	1979	570	0.182	0.081	0.003	44
1797	1985	560	0.117	0.066	0.003	57
1797	1990	560	0.137	0.064	0.003	46
1797	1995	560	0.136	0.044	0.002	32
1797	2000	560	0.051	0.058	0.002	113
1810	1978	187	0.135	0.146	0.011	99
1810	1983	170	0.138	0.17	0.013	99
1810	1989		0.189	0.116	0	0
1810	1993	160	0.195	0.116	0.009	59
1810	1996	160	0.166	0.127	0.01	77
1843	1981	400	0.073	0.087	0.004	99
1843	1996	400	0.065	0.066	0.003	102
189	1978	1368	0.193	0.038	0.001	20
189	1981	1304	0.223	0.067	0.002	30
189	1987	1304	0.182	0.099	0.003	55
189	1991	1304	0.272	0.085	0.002	31
189	1999	1304	0.266	0.113	0.003	42
1894	1980	416	0.122	0.055	0.003	45
1894	1986	408	0.13	0.056	0.003	44
1894	1990	408	0.144	0.058	0.003	40
1894	1995	408	0.141	0.084	0.004	59
1894	2000	408	0.171	0.064	0.003	37
1916	1978	296	0.051	0.055	0.003	99
1916	1982	296	0.077	0.063	0.004	82
1916	1989	296	0.102	0.078	0.005	76
1916	1993	296	0.111	0.098	0.006	88
1916	1997	296	0.133	0.055	0.003	41
1938	1981	430	0.209	0.057	0.003	27
1938	1998		0	0	0	0
1980	1979	909	0.298	0.08	0.003	27
1980	1983	909	0.29	0.083	0.003	27
1980	1986		0.266	0.094	0	0
1980	1990	909	0.249	0.091	0.003	36
1980	1995	909	0.291	0.093	0.003	32
1980	1999	918	0.253	0.103	0.003	41
2008	1980	274	0.091	0.046	0.003	51
2008	1986	259	0.3	0.12	0.007	40

2008	1996	263	0.249	0.092	0.006	37
2010	1984	480	0.353	0.074	0.003	21
2010	1987	470	0.342	0.062	0.003	18
2010	1991	470	0.246	0.09	0.004	37
2010	1995	470	0.207	0.099	0.005	48
2029	1984	240	0.222	0.077	0.005	35
2047	1981	168	0.325	0.072	0.006	22
2102	1981	400	0.054	0.072	0.004	99
2102	1992	400	0.067	0.069	0.003	102
2102	1996	400	0.121	0.129	0.006	107
2102	2000	400	0.063	0.072	0.004	114
2143	1981	677	0.168	0.054	0.002	32
2143	1987	673	0.241	0.096	0.004	40
2143	1991	676	0.242	0.092	0.004	38
2143	1995	674	0.184	0.086	0.003	47
2143	2000	676	0.267	0.072	0.003	27
2155	1998		0	0	0	0
2212	1980	288	0.075	0.08	0.005	99
2212	1986	296	0.068	0.07	0.004	102
2212	1992	296	0.12	0.129	0.008	108
2212	1996	296	0.093	0.117	0.007	126
223	1980	688	0.06	0.034	0.001	57
223	1986	688	0.092	0.055	0.002	59
223	1990	680	0.111	0.049	0.002	44
223	1994	680	0.172	0.048	0.002	28
223	1996	680	0.164	0.1	0.004	61
223	2000	680	0.201	0.07	0.003	35
2233	1978	464	0.286	0.092	0.004	32
2233	1982	456	0.276	0.058	0.003	21
2233	1983	456	0.265	0.053	0.002	20
2233	1984	456	0.295	0.053	0.002	18
2233	1988	456	0.282	0.072	0.003	25
2233	1993	456	0.284	0.07	0.003	25
2233	1997	464	0.205	0.051	0.002	25
2235	1979	376	0.293	0.106	0.005	36
2235	1980	368	0.323	0.101	0.005	31
2235	1982	368	0.274	0.073	0.004	27
2235	1988	368	0.203	0.073	0.004	36
2235	1992	368	0.215	0.062	0.003	29
2235	1996	368	0.243	0.077	0.004	32
2235	2000	368	0.197	0.065	0.003	33
2236	1980	296	0.136	0.123	0.007	90
2236	1982	252	0.23	0.078	0.005	34
2268	1978	81	0.165	0.056	0.006	34
2301	1981	360	0.101	0.064	0.003	63
2301	1989	352	0.122	0.059	0.003	49
2301	1993	354	0.131	0.048	0.003	37
2301	1997	353	0.108	0.058	0.003	54
2302	1980	105	0.065	0.056	0.005	86
2302	1998	306	0.192	0.065	0.004	34
233	1979	432	0.282	0.085	0.004	30
233	1980	440	0.334	0.082	0.004	25

233	1983	424	0.338	0.051	0.002	15
233	1984	424	0.265	0.056	0.003	21
233	1988	424	0.289	0.047	0.002	16
233	1993	424	0.217	0.096	0.005	45
233	1997	424	0.263	0.065	0.003	25
2337	1979	288	0.039	0.058	0.003	99
2337	1986	288	0.051	0.042	0.002	83
2337	1992	288	0.016	0.044	0.003	275
2337	1996	288	0.05	0.059	0.003	119
2359	1978	343	0.153	0.103	0.006	67
2359	1983	297	0.219	0.131	0.008	60
2359	1985	295	0.194	0.055	0.003	29
2359	1989	293	0.135	0.056	0.003	41
2359	1993	290	0.162	0.073	0.004	45
2359	1996	292	0.118	0.078	0.005	66
2401	1979	336	0.137	0.064	0.003	47
2401	1986	328	0.203	0.089	0.005	44
2401	1990	328	0.223	0.089	0.005	40
2401	1993	328	0.304	0.126	0.007	41
2401	1994	328	0.207	0.088	0.005	43
2401	1995	328	0.251	0.095	0.005	38
2401	1996	328	0.201	0.121	0.007	60
2401	1997	328	0.257	0.079	0.004	31
2430	1979	522	0.225	0.088	0.004	39
2430	1986	544	0.276	0.049	0.002	18
2430	1990	544	0.253	0.066	0.003	26
2430	1994	542	0.12	0.072	0.003	60
2430	1998	544	0.158	0.056	0.002	36
2431	1984	912	0.139	0.039	0.001	28
2431	1989	912	0.143	0.057	0.002	40
2431	1993	912	0.121	0.048	0.002	39
2431	1997	912	0.112	0.053	0.002	47
248	1997	424	0.263	0.065	0.003	25
2487	1979	470	0.27	0.076	0.004	28
2487	1983	460	0.267	0.062	0.003	23
2487	1986	460	0.293	0.063	0.003	22
2487	1990	460	0.285	0.067	0.003	24
2487	1992	460	0.273	0.083	0.004	31
2487	1996	460	0.175	0.068	0.003	39
261	1999		0	0	0	0
272	1983	488	0.287	0.127	0.006	44
272	1986	968	0.276	0.131	0.004	47
272	1990	968	0.227	0.077	0.002	34
272	1995	968	0.147	0.056	0.002	38
274	1982	240	0.056	0.056	0.004	99
274	1992	240	0.132	0.066	0.004	50
274	1996	240	0.129	0.064	0.004	50
277	1984	351	0.13	0.059	0.003	45
277	1995	351	0.091	0.04	0.002	44
277	1999	351	0.099	0.06	0.003	60
278	1979	402	0.259	0.1	0.005	39
278	1982	398	0.244	0.101	0.005	41

278	1984	394	0.257	0.059	0.003	23
278	1987	391	0.227	0.059	0.003	26
278	1991	391	0.377	0.142	0.007	38
278	1995	394	0.173	0.047	0.002	27
286	1981	576	0.037	0.03	0.001	81
286	1989	584	0.061	0.031	0.001	51
286	1993	584	0.043	0.045	0.002	105
286	1997	584	0.071	0.036	0.001	50
304	1981	152	0.122	0.079	0.006	65
304	1996	152	0.061	0.043	0.003	70
309	1985	384	0.107	0.065	0.003	61
309	1992	176	0.067	0.089	0.007	134
309	1996	176	0.066	0.067	0.005	101
310	1978	320	0.217	0.077	0.004	35
310	1983	312	0.193	0.091	0.005	47
310	1988	312	0.229	0.098	0.006	43
310	1993	312	0.233	0.102	0.006	44
310	1997	312	0.189	0.102	0.006	54
313	1980	448	0.042	0.037	0.002	88
313	1986	448	0.067	0.039	0.002	58
313	1998	1593	0.032	0.028	0.001	88
315	1979	693	0.096	0.058	0.002	60
315	1986	912	0.149	0.048	0.002	32
315	1990	912	0.16	0.062	0.002	39
315	1994	912	0.167	0.064	0.002	38
315	1996	912	0.119	0.057	0.002	48
340	1980	304	0.064	0.049	0.003	77
340	1986	304	0.07	0.053	0.003	75
340	1990	312	0.006	0.023	0.001	369
340	1995	312	0.065	0.027	0.002	42
340	2000	312	0.072	0.041	0.002	58
358	1979	272	0.051	0.052	0.003	99
358	1986	280	0.077	0.048	0.003	63
358	1990	272	0.017	0.042	0.003	249
358	1994	272	0.051	0.041	0.002	81
358	1999	272	0.064	0.048	0.003	75
395	1978	352	0.17	0.116	0.006	68
395	1985		0	0	0	0
436	1980	136	0.055	0.09	0.008	99
436	1986	136	0.147	0.071	0.006	48
436	1990	136	0.154	0.112	0.01	73
436	1985	136	0.175	0.093	0.008	53
436	2000	136	0.152	0.091	0.008	60
437	1998		0	0	0	0
457	1977	351	0.083	0.071	0.004	86
457	1981	537	0.16	0.096	0.004	60
457	1987	525	0.133	0.105	0.005	79
457	1991	530	0.221	0.07	0.003	32
457	1999	525	0.206	0.075	0.003	37
521	1978	99	0.35	0.069	0.007	20
521	1984	91	0.474	0.063	0.007	13
527	1996		0	0	0	0

570	1985	551	0.228	0.04	0.002	17
570	1990	504	0.256	0.044	0.002	17
570	1994	507	0.252	0.046	0.002	18
570	1998	509	0.22	0.04	0.002	18
589	1979	368	0.235	0.062	0.003	26
589	1983	360	0.277	0.058	0.003	21
589	1987	360	0.178	0.039	0.002	22
589	1991	360	0.193	0.061	0.003	32
589	1995	360	0.245	0.054	0.003	22
589	1999	360	0.229	0.054	0.003	24
611	1981	448	0.317	0.148	0.007	47
611	1982	448	0.304	0.148	0.007	49
611	1984		0	0	0	0
611	1988	595	0.319	0.169	0.007	53
611	1996	448	0.27	0.163	0.008	61
6548	1980	133	0.076	0.054	0.005	71
6548	1986	133	0.035	0.031	0.003	89
6548	1992	133	0.063	0.064	0.006	102
6548	1996	133	0.053	0.061	0.005	116
6565	1978	700	0.268	0.071	0.003	27
6565	1979	781	0.167	0.073	0.003	44
6565	1980	792	0.267	0.062	0.002	23
6565	1982	770	0.27	0.066	0.002	24
6565	1987	770	0.209	0.053	0.002	25
6565	1991	759	0.234	0.075	0.003	32
6565	1992	770	0.228	0.07	0.003	31
6565	1996	770	0.221	0.061	0.002	28
6565	2000	770	0.128	0.08	0.003	63
6615	1997	1320	0.215	0.058	0.002	27
6733	1980	539	0.108	0.055	0.002	51
6733	1986	558	0.047	0.033	0.001	71
6733	1992	561	0.083	0.053	0.002	64
6733	1996	574	0.101	0.066	0.003	66
6809	1981	252	0.106	0.046	0.003	43
6809	1989	252	0.112	0.06	0.004	53
6809	1993	252	0.114	0.058	0.004	51
6809	1997	252	0.214	0.131	0.008	61
698	1980	477	0.053	0.038	0.002	72
698	1985	476	0.11	0.035	0.002	32
698	1990	477	0.151	0.043	0.002	28
698	1995	478	0.125	0.049	0.002	39
698	1999	482	0.142	0.059	0.003	42
70009	1978	585	0.313	0.047	0	15
70009	1982	496	0.212	0.059	0	28
70009	1987	488	0.227	0.049	0.002	22
70009	1991	496	0.171	0.078	0.004	46
70009	1995	496	0.25	0.057	0.003	23
70009	1997	496	0.22	0.089	0.004	41
70022	1977	231	0.116	0.046	0	40
70022	1985	492	0.216	0.066	0.003	31
70022	1990	492	0.214	0.086	0.004	40
70022	1994	492	0.177	0.101	0.005	57

70022	1998	492	0.112	0.102	0.005	91
70156	1978	327	0.242	0.096	0	40
70156	1979	325	0.113	0.045	0	40
70156	1980	314	0.217	0.042	0	19
70156	1986	320	0.215	0.04	0.002	19
70156	1990	314	0.231	0.051	0.003	22
70156	1994	317	0.243	0.05	0.003	21
70156	1998	318	0.21	0.046	0.003	22
70247	1980	1116	0.312	0.046	0	15
70247	1986	1376	0.38	0.196	0.005	52
70247	1991	1376	0.31	0.186	0.005	60
70247	1996	1096	0.334	0.138	0.004	41
70277	1982	812	0.165	0.053	0	51
70277	1988	810	0.165	0.051	0.002	31
70277	1993	813	0.152	0.076	0.003	50
70277	1997	813	0.189	0.052	0.002	27
70509	1984	891	0.075	0.04	0.001	53
70509	1992	891	0.042	0.036	0.001	86
70509	1996	891	0.051	0.059	0.002	115
70566	1978	396	0.134	0.093	0	69
70566	1983	396	0.181	0.108	0	59
70566	1987	396	0.239	0.097	0.005	41
70566	1991	396	0.286	0.123	0.006	43
70566	1999	396	0.198	0.09	0.005	46
70577	1998		0	0	0	0
70580	1978	1176	0.397	0.104	0	26
70580	1983	672	0.299	0.183	0	61
70580	1984	656	0.3	0.18	0.007	60
70580	1987	656	0.375	0.059	0.002	16
70580	1991	492	0.373	0.091	0.004	24
70580	1995	492	0.421	0.092	0.004	22
70594	1978	760	0.317	0.055	0	17
70594	1982	730	0.323	0.075	0	23
70594	1986	730	0.281	0.076	0.003	27
70594	1990	730	0.383	0.095	0.004	25
70594	1994	730	0.218	0.093	0.003	43
70594	1998	730	0.225	0.081	0.003	36
70626	1980	710	0.124	0.115	0	93
70626	1999		0	0	0	0
7086	1984	231	0.056	0.049	0.003	87
7086	1992	231	0.117	0.058	0.004	50
70935	1978	539	0.193	0.077	0	40
70935	1983	470	0.303	0.063	0	21
70935	1985	470	0.343	0.088	0.004	26
70935	1990	470	0.251	0.076	0.003	30
70935	1994	470	0.246	0.082	0.004	33
70935	1998	470	0.25	0.066	0.003	26
710	1980	401	0.109	0.075	0.004	69
710	1985	404	0.125	0.076	0.004	61
710	1990	411	0.193	0.085	0.004	44
710	1992	401	0.203	0.081	0.004	40
710	1996	410	0.197	0.099	0.005	50

710	2000	410	0.1	0.065	0.003	65
71019	1980	276	0.169	0.067	0	39
71019	1987	368	0.278	0.067	0.003	24
71019	1991	368	0.326	0.068	0.004	21
71019	1995	368	0.368	0.074	0.004	20
71019	1999	376	0.385	0.084	0.004	22
71054	1979	182	0.064	0.065	0	99
71054	1986	189	0.15	0.072	0.005	48
71054	1990	182	0.187	0.062	0.005	33
71054	1994	182	0.21	0.068	0.005	33
71054	2000	189	0.196	0.073	0.005	37
7109	1980	287	0.081	0.058	0.003	72
7109	1988	112	0.03	0.025	0.002	85
7109	1986	112	0.03	0.025	0.002	85
7109	1996	112	0.173	0.061	0.006	35
71106	1979	231	0.295	0.093	0	32
71106	1980	210	0.276	0.109	0	39
71106	1986	210	0.321	0.071	0.005	22
71106	1990	210	0.304	0.121	0.008	40
71106	1994	210	0.308	0.107	0.007	35
71116	1984	2385	0.219	0.038	0	17
71116	1988	1188	0.228	0.056	0.002	25
71116	1992	1188	0.219	0.067	0.002	30
71116	1996	1188	0.184	0.076	0.002	41
71116	2000	1188	0.179	0.085	0.002	48
71145	1978	1799	0.064	0.053	0	83
71145	1982	1778	0.129	0.058	0	428
71145	1989	896	0.16	0.059	0.002	37
71145	1993	896	0.273	0.082	0.003	30
71145	1996	896	0.222	0.058	0.002	26
71145	1996	512	0.225	0.062	0.003	27
71145	1996	512	0.216	0.054	0.002	25
71145	1997	896	0.187	0.053	0.002	28
71145	1998	896	0.226	0.061	0.002	27
71145	1998	512	0.224	0.063	0.003	28
71145	1998	512	0.217	0.058	0.003	27
71291	1982	1848	0.184	0.046	0	25
71291	1988	928	0.247	0.059	0.002	24
71291	1992	928	0.287	0.064	0.002	22
71291	1995	928	0.195	0.103	0.003	53
71291	2000	928	0.218	0.061	0.002	28
713	1981	207	0.162	0.071	0.005	44
713	1998		0	0	0	0
71313	1979	944	0.195	0.061	0	31
71313	1986	949	0.361	0.097	0.003	27
71313	1988	943	0.292	0.067	0.002	23
71313	1992	943	0.288	0.095	0.003	33
71313	1996	948	0.317	0.114	0.004	36
71315	1979	1512	0.327	0.186	0	26
71315	1982	1728	0.379	0.109	0	25
71315	1986		0.413	0.094	0	0
71315	1990		0.334	0.127	0	0

71315	1995	756	0.42	0.129	0.005	31
71315	1999	763	0.456	0.091	0.003	20
71316	1979	576	0.156	0.059	0	38
71316	1985	852	0.271	0.08	0.003	30
71316	1990	852	0.222	0.076	0.003	34
71316	1994	852	0.261	0.081	0.003	31
71316	1999	852	0.245	0.088	0.003	36
71504	1980	248	0.044	0.067	0	99
71504	1987	248	0.173	0.075	0.005	43
71504	1991	248	0.156	0.091	0.006	59
71504	1995	248	0.134	0.098	0.006	73
71504	1999	248	0.181	0.08	0.005	45
7168	1979	288	0.03	0.051	0.003	99
7168	1986	288	0.054	0.04	0.002	75
7168	1990	288	0.075	0.04	0.002	52
7168	1994	288	0.066	0.048	0.003	73
7168	1998	288	0.174	0.077	0.005	44
72007W	1987		0.299	0.065	0	0
72007W	2000	444	0.199	0.064	0.003	32
72094	1979	927	0.265	0.068	0	26
72094	1982	909	0.319	0.051	0	16
72094	1983	909	0.299	0.05	0	17
72094	1987	909	0.311	0.067	0.002	21
72094	1991	909	0.353	0.088	0.003	25
72094	1996	909	0.297	0.093	0.003	31
72094	2000	918	0.253	0.078	0.003	31
72168	1998		0	0	0	0
72186	1977	256	0.175	0.063	0	36
72279	1998		0	0	0	0
72345	1984	633	0.135	0.044	0.002	33
72345	1992	632	0.088	0.064	0.003	73
72345	1996	632	0.116	0.063	0.003	55
72467	1980	1212	0.067	0.057	0	86
72467	1986	1212	0.061	0.051	0.001	85
72467	1990	1208	0.086	0.087	0.002	101
72467	1994	1203	0.191	0.119	0.003	63
72467	1998	1208	0.174	0.066	0.002	38
72533S	1978	936	0.141	0.06	0	188
72533S	1983	828	0.16	0.068	0	42
72533S	1987	828	0.151	0.068	0.002	45
72533S	1991	828	0.155	0.077	0.003	50
72533S	1995	373	0.197	0.09	0.005	45
72533S	1999	828	0.174	0.084	0.003	48
72535S	1978	434	0.156	0.074	0	48
72535S	1983	362	0.164	0.115	0	70
72535S	1987	372	0.133	0.089	0.005	67
72535S	1991	364	0.13	0.061	0.003	47
72535S	1997	384	0.212	0.127	0.006	60
72545	1979	390	0.292	0.059	0	20
72545	1984	374	0.34	0.079	0.004	23
72545	1986	274	0.401	0.047	0.003	12
72551N	1979	253	0.2	0.086	0	43

72551N	1982	253	0.269	0.038	0	14
72551N	1983	253	0.228	0.05	0	22
72551N	1987	253	0.231	0.047	0.003	20
72551N	1991	253	0.292	0.057	0.004	20
72551N	1992	253	0.266	0.054	0.003	20
72551N	1996	253	0.163	0.138	0.009	85
72551S	1979	253	0.217	0.079	0	36
72551S	1982	253	0.271	0.043	0	16
72551S	1983	253	0.254	0.053	0	21
72551S	1987	253	0.257	0.059	0.004	23
72551S	1991	253	0.308	0.063	0.004	21
72551S	1992	253	0.284	0.061	0.004	21
72551S	1996	253	0.208	0.131	0.008	63
7256	1981	1575	0.036	0.025	0.001	69
7256	1989	798	0.063	0.035	0.001	56
7256	1993	798	0.028	0.034	0.001	121
7256	1997	805	0.024	0.026	0.001	110
72631	1981	462	0.118	0.052	0	44
72631	2000	461	0.286	0.045	0.002	16
72640	1981	240	0.131	0.04	0	30
72640	1987	240	0.088	0.056	0.004	64
72640	1998	240	0.143	0.044	0.003	31
72705	1982	1410	0.374	0.074	0	20
72705	1986	1316	0.431	0.055	0.002	13
72705	1989	1410	0.427	0.073	0.002	17
72810E	1985	274	0.193	0.039	0.002	20
72810E	1989	278	0.242	0.088	0.005	36
72810E	1994	276	0.17	0.035	0.002	21
72810W	1985	274	0.163	0.042	0.003	26
72810W	1989	279	0.147	0.059	0.004	40
72810W	1994	278	0.113	0.04	0.002	35
72819	1998		0	0	0	0
7295	1981	152	0.032	0.023	0.002	72
7295	1989	152	0.067	0.025	0.002	37
7295	1995	152	0.082	0.034	0.003	41
73077	1999		0	0	0	0
73184	1985	339	0.077	0.054	0.003	70
73184	1989	305	0.08	0.082	0.005	102
73184	1993	308	0.056	0.073	0.004	131
73184	1998	305	0.08	0.062	0.004	78
73274	1985	280	0.055	0.043	0.003	78
73274	1989	274	0.117	0.053	0.003	45
73274	1993	281	0.154	0.06	0.004	39
73274	1996	279	0.127	0.066	0.004	52
73275	1985	1155	0.294	0.049	0.001	17
73275	1989	1166	0.307	0.058	0.002	19
73275	1993	1166	0.165	0.064	0.002	39
73275	1997	1166	0.211	0.073	0.002	35
73277	1984	1100	0.23	0.071	0.002	31
73277	1989	1103	0.21	0.087	0.003	41
73277	1993	1101	0.211	0.093	0.003	44
73277	2000	1105	0.225	0.059	0.002	26

73407	1979	1053	0.196	0.063	0	32
73407	1983	1044	0.302	0.074	0	24
73407	1986	1044	0.36	0.072	0.002	20
73407	1990	1044	0.291	0.063	0.002	22
73407	1994	1044	0.305	0.062	0.002	20
73407	1998	1044	0.326	0.066	0.002	20
73410	1979	500	0.066	0.037	0	56
73410	1983	500	0.209	0.053	0	25
73410	1987	500	0.298	0.06	0.003	20
73410	1991	500	0.365	0.066	0.003	18
73410	1996	500	0.3	0.096	0.004	32
73410	1998		0	0	0	0
73420	1981	216	0.194	0.049	0	25
73420	1989	215	0.16	0.089	0.006	56
73420	1993	215	0.234	0.074	0.005	32
73420	1997	214	0.208	0.053	0.004	25
73425	1978	451	0.234	0.101	0	43
73425	1983	350	0.262	0.082	0	31
73425	1986	350	0.374	0.099	0.005	27
73425	1988	350	0.421	0.112	0.006	27
73425	1993	350	0.307	0.072	0.004	23
73425	1996	350	0.284	0.06	0.003	21
73425	2000	350	0.255	0.075	0.004	30
73426	1999	270	0.147	0.123	0.007	84
73429	1980	873	0.25	0.056	0	22
73429	1984	864	0.32	0.057	0.002	18
73429	1986	855	0.193	0.049	0.002	25
73429	1990	855	0.108	0.075	0.003	69
73429	1996	855	0.219	0.058	0.002	26
73429	2000	855	0.246	0.067	0.002	27
73527	1978	420	0.264	0.076	0	29
73527	1980	236	0.355	0.055	0	15
73527	1984	314	0.415	0.048	0.003	12
73621	1977	297	0.143	0.088	0	62
73621	1985	274	0.211	0.078	0.005	37
73621	1990	402	0.254	0.103	0.005	40
73621	1994	405	0.2	0.086	0.004	43
73621	1998	407	0.168	0.074	0.004	44
73636	1979	300	0.204	0.093	0	46
73636	1983	300	0.27	0.109	0	11
73636	1986	300	0.295	0.104	0.006	35
73636	1990	300	0.298	0.09	0.005	30
73636	1995	300	0.261	0.078	0.005	30
73636	1999	300	0.239	0.088	0.005	37
73637	1990	409	0.146	0.042	0.002	29
73637	1997	418	0.096	0.061	0.003	64
73640	1977	289	0.34	0.074	0	22
73640	1978	140	0.153	0.069	0	470
73640	1978	396	0.161	0.045	0	28
73640	1979	396	0.228	0.059	0	26
73640	1980	396	0.26	0.051	0	20
73640	1981	408	0.24	0.047	0	20

73640	1988	397	0.252	0.048	0.002	19
73640	1993	398	0.217	0.051	0.003	24
73640	1996	392	0.11	0.079	0.004	72
73694S	1997	1166	0.211	0.073	0.002	35
7373	1981	324	0.076	0.053	0.003	70
7373	1996	324	0.042	0.041	0.002	98
73757	1985	511	0.048	0.032	0.001	68
73757	1992	511	0.174	0.068	0.003	39
73757	1999	511	0.141	0.095	0.004	68
7377	1981	189	0.128	0.079	0.006	62
7377	1992	189	0.187	0.113	0.008	61
7377	1996	198	0.179	0.136	0.01	76
7377	1998		0	0	0	0
73779	1984	760	0.198	0.042	0.002	21
73779	1989	390	0.157	0.055	0.003	35
73779	1994	760	0.134	0.05	0.002	37
73779	1999	760	0.223	0.05	0.002	22
73810W	1984	1705	0.218	0.059	0.001	27
73810W	1987	1705	0.286	0.057	0.001	20
73810W	1991	1727	0.161	0.078	0.002	49
73810W	1996	858	0.185	0.101	0.003	55
73810W	2000	1705	0.173	0.093	0.002	54
73819	1978	100	0.182	0.103	0	57
73819	1978	242	0.261	0.074	0	28
73819	1983	231	0.244	0.048	0	20
73819	1987	231	0.204	0.048	0.003	24
73819	1991	231	0.205	0.034	0.002	17
73819	1997	99	0.217	0.041	0.004	19
73825E	1985		0	0	0	0
73836	1979	876	0.18	0.063	0	35
73836	1982	866	0.209	0.068	0	33
73836	1985	861	0.29	0.073	0.002	25
73836	1988	861	0.313	0.066	0.002	21
73836	1992	861	0.378	0.083	0.003	22
73836	1996	866	0.273	0.062	0.002	23
73836	2000	867	0.287	0.074	0.003	26
73837	1984	723	0.242	0.053	0.002	22
73837	1987		0.247	0.054	0	0
73837	1991	721	0.243	0.063	0.002	26
73837	1995	719	0.231	0.052	0.002	23
73837	2000	723	0.218	0.056	0.002	26
73919E	1978	928	0.307	0.066	0	21
73919E	1982	912	0.331	0.07	0	21
73919E	1987	912	0.406	0.045	0.001	11
73919E	1991	912	0.373	0.053	0.002	14
73919E	1995	912	0.297	0.082	0.003	28
73919E	1999	904	0.315	0.079	0.003	25
73920W	1984	604	0.18	0.035	0.001	19
73920W	1989	647	0.213	0.069	0.003	32
73920W	1993	648	0.251	0.086	0.003	34
73920W	2000	604	0.277	0.08	0.003	29
73922	1980	1844	0.077	0.053	0	69

73922	1988	916	0.095	0.083	0.003	88
73922	1992	858	0.141	0.077	0.003	55
73922	1999	1144	0.266	0.077	0.002	29
73949	1978	3558	0.264	0.077	0	29
73949	1979	756	0.334	0.084	0	25
73949	1980	672	0.33	0.069	0	21
73949	1981	678	0.345	0.075	0	22
73949	1982	684	0.23	0.151	0	66
73949	1983	684	0.227	0.147	0	65
73949	1984		0	0	0	0
73949	1987	912	0.382	0.085	0.003	22
73949	1991	912	0.356	0.142	0.005	40
73949	1995	904	0.383	0.117	0.004	31
73949	1999	904	0.445	0.116	0.004	26
7398	1985	1700	0.117	0.044	0.001	38
7398	1989		0.12	0.041	0	0
7398	1993	1699	0.092	0.036	0.001	39
7398	1997	1700	0.058	0.038	0.001	65
740	1978	385	0.063	0.047	0.002	75
740	1983	362	0.05	0.038	0.002	76
740	1992	362	0.107	0.077	0.004	72
740	1996	365	0.124	0.063	0.003	51
7401	1999		0	0	0	0
74031N	2000	1386	0.11	0.045	0.001	41
74116	1978	297	0.145	0.088	0	61
74116	1984	250	0.192	0.064	0.004	33
74116	1992	250	0.203	0.069	0.004	34
74116	1996	250	0.196	0.074	0.005	38
74137	1978	348	0.249	0.068	0	27
74137	1983	348	0.269	0.109	0	41
74137	1984	377	0.239	0.091	0.005	38
74137	1989	377	0.196	0.101	0.005	52
74137	1993	377	0.169	0.108	0.006	64
74137	1996	377	0.268	0.115	0.006	43
74137	1997	348	0.26	0.085	0.005	33
74194	1996		0	0	0	0
74195	1980	707	0.19	0.103	0	54
74195	1985	686	0.212	0.112	0.004	53
74195	1990	693	0.272	0.116	0.004	43
74195	1996	693	0.287	0.142	0.005	50
74217	1977	280	0.293	0.088	0	30
74217	1979	367	0.331	0.085	0	26
74217	1980	423	0.3	0.064	0	21
74217	1982	414	0.366	0.069	0	19
74217	1983	416	0.376	0.066	0	18
74217	1984		0	0	0	0
74217	1988	416	0.286	0.066	0.003	23
74217	1993	416	0.265	0.074	0.004	28
74217	1997	425	0.241	0.075	0.004	31
74222	1979	432	0.114	0.079	0	69
74222	1983	424	0.138	0.074	0	54
74222	1988	424	0.123	0.082	0.004	67

74222	1997	424	0.077	0.071	0.003	92
74227	1980	3496	0.183	0.047	0	26
74227	1985	1600	0.226	0.056	0.001	25
74227	1990	1600	0.255	0.069	0.002	27
74227	1994	1600	0.216	0.062	0.002	29
74227	1996		0	0	0	0
74227	2000	1592	0.248	0.057	0.001	23
74228	1980	1267	0.325	0.064	0	20
74228	1984	1672	0.303	0.068	0.002	22
74228	1986	1672	0.315	0.057	0.001	18
74228	1988	1668	0.234	0.05	0.001	22
74228	1992	1668	0.304	0.081	0.002	27
74228	1996	1670	0.293	0.073	0.002	25
74228	2000	1675	0.289	0.071	0.002	25
74229	1981	1935	0.116	0.041	0	35
74229	1987	972	0.307	0.052	0.002	17
74229	1991	972	0.233	0.057	0.002	25
74229	1994	972	0.261	0.067	0.002	26
74229	2000	972	0.248	0.062	0.002	25
74232	1981	1728	0.103	0.035	0	34
74232	1988	856	0.244	0.058	0.002	24
74232	1994	856	0.204	0.069	0.002	34
74232	1995	856	0.286	0.062	0.002	22
74232	1996	856	0.284	0.059	0.002	21
74232	1997	856	0.306	0.056	0.002	18
74232	1998	856	0.273	0.066	0.002	24
74233	1979	1904	0.273	0.05	0	18
74233	1982	1896	0.261	0.058	0	22
74233	1983	952	0.312	0.064	0	21
74233	1984	952	0.378	0.059	0.002	16
74233	1989	952	0.353	0.093	0.003	26
74233	1993	952	0.344	0.081	0.003	23
74233	1997	952	0.304	0.083	0.003	27
74236	1981	2232	0.121	0.051	0	42
74236	1988	1112	0.188	0.068	0.002	36
74236	1994	1112	0.202	0.053	0.002	26
74236	1999	1128	0.233	0.061	0.002	26
74282W	1979	226	0.171	0.094	0	55
74282W	1983	216	0.353	0.12	0	34
74282W	1986	215	0.343	0.104	0.007	30
74282W	1990	214	0.339	0.077	0.005	23
74352E	1981	1228	0.205	0.034	0	16
74352E	2000	1226	0.253	0.091	0.003	36
74352W	1981	1228	0.262	0.078	0	30
74352W	1985	1216	0.346	0.068	0.002	20
74352W	1989	1219	0.269	0.143	0.004	53
74352W	1993	1215	0.253	0.083	0.002	33
74352W	1997	1218	0.269	0.089	0.003	33
74353E	1977	1041	0.088	0.072	0	82
74353E	1981	1592	0.277	0.092	0	33
74353E	1984	1587	0.282	0.094	0.002	33
74353E	1986	1587	0.268	0.075	0.002	28

74353E	1988	1588	0.205	0.087	0.002	42
74353E	1992	1588	0.183	0.082	0.002	45
74353E	1995	1588	0.186	0.081	0.002	43
74353E	1996	1590	0.187	0.073	0.002	39
74353E	1997	1599	0.194	0.059	0.001	31
74353E	1998	1589	0.197	0.065	0.002	33
74353W	1977	1136	0.111	0.096	0	86
74353W	1981	1594	0.229	0.114	0	50
74353W	1984	1585	0.307	0.07	0.002	23
74353W	1986	1585	0.348	0.059	0.001	17
74353W	1988	1590	0.285	0.061	0.002	21
74353W	1992	1589	0.316	0.079	0.002	25
74353W	1995	1588	0.252	0.073	0.002	29
74353W	1996	1593	0.252	0.081	0.002	32
74353W	1997	1594	0.241	0.061	0.002	25
74353W	1998	1590	0.223	0.055	0.001	25
74354E	1981	966	0.154	0.051	0	33
74354E	1983	966	0.182	0.057	0	31
74354E	1988	966	0.163	0.076	0.002	47
74354E	1992	966	0.03	0.072	0.002	237
74354E	1997	966	0.177	0.088	0.003	50
74354W	1981	868	0.246	0.108	0	44
74354W	1983	868	0.301	0.054	0	18
74354W	1984		0	0	0	0
74354W	1986		0.316	0.056	0	0
74354W	1988	868	0.295	0.066	0.002	22
74354W	1992	868	0.195	0.079	0.003	40
74354W	1996	868	0.218	0.095	0.003	44
74355E	1977	682	0.089	0.071	0	80
74355E	1979	1036	0.172	0.06	0	35
74355E	1980	1064	0.174	0.064	0	37
74355E	1981	1050	0.195	0.065	0	33
74355E	1982	1050	0.283	0.051	0	18
74355E	1983	1050	0.213	0.062	0	29
74355E	1987	1050	0.176	0.069	0.002	39
74355E	1991	1050	0.219	0.077	0.002	35
74355E	1992	1050	0.185	0.1	0.003	54
74355E	1998	1050	0.211	0.086	0.003	40
74355W	1977	649	0.364	0.115	0	32
74355W	1979	1090	0.258	0.088	0	34
74355W	1980	1003	0.274	0.067	0	24
74355W	1981	1012	0.269	0.049	0	18
74355W	1982	988	0.219	0.061	0	18
74355W	1983	985	0.294	0.047	0	16
74355W	1987	984	0.274	0.067	0.002	24
74355W	1991	983	0.194	0.076	0.002	39
74355W	1992	982	0.175	0.07	0.002	40
74355W	1996	989	0.134	0.095	0.003	71
74355W	1997	997	0.169	0.06	0.002	35
74358	1980	672	0.1	0.054	0	54
74358	1987	672	0.086	0.051	0.002	60
74358	1991	672	0.068	0.055	0.002	81

74358	1995	672	0.028	0.037	0.001	133
74358	1999	680	0.222	0.062	0.002	28
74381	1978	1608	0.383	0.07	0	18
74381	1980	972	0.392	0.077	0	20
74381	1982	1602	0.289	0.177	0	61
74381	1983	780	0.284	0.173	0	61
74381	1987	1040	0.387	0.09	0.003	23
74381	1991	1072	0.382	0.065	0.002	17
74381	1994	1040	0.282	0.116	0.004	41
74381	1998	1072	0.348	0.096	0.003	28
74426	1978	376	0.13	0.084	0	62
74426	1983	368	0.168	0.063	0	38
74426	1987	368	0.151	0.06	0.003	39
74426	1991	376	0.229	0.087	0.004	38
74426	1993	368	0.191	0.079	0.004	41
74426	1994	376	0.144	0.057	0.003	40
74426	1995	368	0.199	0.045	0.002	23
74426	1996	376	0.203	0.041	0.002	20
74426	1997	376	0.202	0.055	0.003	27
74426	1998	376	0.222	0.039	0.002	17
74440	1978	1824	0.23	0.081	0	35
74440	1979	992	0.282	0.071	0	25
74440	1980	1000	0.262	0.075	0	29
74440	1981	840	0.28	0.08	0	29
74440	1982	912	0.281	0.068	0	24
74440	1983	912	0.277	0.07	0	25
74440	1984		0	0	0	0
74440	1987	904	0.363	0.078	0.003	21
74440	1991	912	0.332	0.078	0.003	23
74440	1995	912	0.34	0.082	0.003	24
74440	1998	912	0.375	0.064	0.002	17
74447	1990	286	0.159	0.111	0.007	70
74447	1997	286	0.149	0.092	0.005	62
74452	1978	1794	0.302	0.072	0	24
74452	1979	1311	0.307	0.073	0	24
74452	1979	2392	0.275	0.046	0	17
74452	1980	1208	0.385	0.045	0	12
74452	1981	1184	0.35	0.06	0	17
74452	1982	876	0.242	0.146	0	60
74452	1983	1184	0.372	0.067	0	18
74452	1984		0	0	0	0
74452	1988	888	0.388	0.063	0.002	16
74455	1979	600	0.195	0.07	0	36
74455	1983	588	0.223	0.065	0	29
74455	1989	588	0.247	0.078	0.003	32
74455	1995	588	0.179	0.06	0.002	33
74455	2000	588	0.144	0.07	0.003	48
74458S	1977	708	0.217	0.128	0	59
74458S	1978	1008	0.284	0.085	0	30
74458S	1978	1008	0.18	0.042	0	23
74458S	1979	936	0.258	0.04	0	16
74458S	1980	994	0.251	0.049	0	20

74458S	1981	994	0.255	0.052	0	20
74458S	1983	994	0.241	0.047	0	20
74458S	1984		0	0	0	0
74458S	1987	994	0.193	0.055	0.002	28
74458S	1991	994	0.217	0.055	0.002	25
74458S	1996	994	0.167	0.051	0.002	31
74540	1980	250	0.091	0.073	0	84
74540	1986	255	0.047	0.042	0.003	90
74540	1992	255	0.063	0.061	0.004	98
74596	1981	526	0.334	0.076	0	23
74596	1982	519	0.376	0.076	0	20
74596	1986	518	0.44	0.081	0.004	18
74596	1991	517	0.524	0.099	0.004	19
74596	1995	519	0.34	0.077	0.003	23
74596	1999	519	0.383	0.08	0.003	21
74600W	1986	334	0.344	0.104	0.006	30
74600W	1999		0	0	0	0
7461	1979	1665	0.182	0.072	0.002	40
7461	1983	1674	0.231	0.087	0.002	38
7461	1987	1674	0.259	0.101	0.002	39
7461	1992	1674	0.253	0.085	0.002	34
7461	1996	1674	0.3	0.056	0.001	19
7461	1997	1674	0.272	0.042	0.001	16
74653	1978	1521	0.11	0.083	0	72
74653	1979	1962	0.208	0.065	0	31
74653	1983	1935	0.193	0.073	0	38
74653	1987	972	0.165	0.046	0.001	28
74653	1991	972	0.133	0.034	0.001	26
74653	1995	972	0.137	0.037	0.001	27
74653	2000	972	0.096	0.037	0.001	38
74678	1977	354	0.269	0.113	0	42
74678	1978	346	0.398	0.073	0	18
74678	1978	527	0.176	0.061	0	35
74678	1979	524	0.253	0.055	0	22
74678	1980	522	0.268	0.07	0	26
74678	1981	561	0.255	0.055	0	22
74678	1983	522	0.246	0.043	0	17
74678	1987	529	0.195	0.052	0.002	27
74678	1991	507	0.215	0.063	0.003	29
74678	1995	525	0.197	0.048	0.002	25
74679	#VALUE!	330	0.198	0.154	0	78
74679	1978	256	0.165	0.088	0	53
74679	1978	390	0.171	0.057	0	33
74679	1979	400	0.233	0.047	0	20
74679	1980	390	0.295	0.046	0	16
74679	1981	420	0.307	0.063	0	17
74679	1982	400	0.261	0.059	0	23
74679	1987	390	0.256	0.093	0.005	37
74679	1991	390	0.219	0.082	0.004	37
74679	1995	390	0.241	0.141	0.007	59
74679	1999	400	0.237	0.123	0.006	52
747	1998		0	0	0	0

74710	1981	382	0.162	0.04	0	25
74710	1987	376	0.232	0.068	0.003	29
74710	1991	358	0.244	0.077	0.004	31
74710	1995	377	0.244	0.061	0.003	25
74710	1999	377	0.172	0.085	0.004	49
7475	1978	280	0.238	0.112	0.007	47
7475	1982	260	0.118	0.112	0.007	95
7475	1988	260	0.17	0.114	0.007	67
7475	1995	260	0.161	0.05	0.003	31
7487	1984	666	0.177	0.04	0.002	23
7487	1988	666	0.15	0.045	0.002	30
7487	1992	666	0.162	0.04	0.002	25
7487	1996	666	0.172	0.049	0.002	29
7492	1981	740	0.208	0.049	0.002	24
74954	1978	340	0.425	0.113	0	27
74954	1982	330	0.293	0.078	0	27
74954	1984	330	0.327	0.072	0.004	22
74954	1987	330	0.273	0.085	0.005	31
74954	1991	330	0.249	0.084	0.005	34
74954	1995	340	0.235	0.076	0.004	32
74954	2000	340	0.226	0.088	0.005	39
74969	1979	528	0.125	0.053	0	43
74969	1980		0.125	0.053	0	0
74969	1987	520	0.235	0.101	0.004	43
74969	1991	520	0.241	0.114	0.005	47
74969	1995	520	0.222	0.088	0.004	40
74969	1999	528	0.218	0.074	0.003	34
74978E	1979	717	0.234	0.082	0	35
74978E	1991		0.272	0.058	0	0
74978E	1999	719	0.216	0.07	0.003	32
74978W	1991		0.245	0.125	0	0
74978W	1999	667	0.158	0.106	0.004	67
75014	1980	896	0.253	0.102	0	40
75014	1983	786	0.215	0.144	0	67
75014	1985	2754	0.29	0.173	0	60
75014	1988		0.323	0.071	0	0
75014	1992	1820	0.332	0.062	0	0
75014	1996	1834	0.328	0.073	0.002	22
75014	2000	1834	0.347	0.066	0.002	19
75016	1977	329	0.388	0.078	0	20
75021	1979	520	0.206	0.073	0	35
75021	1983	510	0.232	0.071	0	31
75021	1987	510	0.161	0.047	0.002	29
75021	1991	510	0.171	0.048	0.002	28
75021	1995	510	0.145	0.071	0.003	49
75051N	1979	582	0.305	0.1	0	33
75051N	1982	561	0.306	0.062	0	20
75051N	1986	568	0.318	0.06	0.003	19
75051N	1990	559	0.207	0.076	0.003	37
75051N	1992	561	0.178	0.091	0.004	51
75051N	1996	570	0.217	0.088	0.004	41
75051N	2000	563	0.243	0.073	0.003	30

75051S	1979	582	0.269	0.092	0	34
75051S	1982	561	0.265	0.062	0	23
75051S	1986	570	0.309	0.065	0.003	21
75051S	1990	560	0.191	0.062	0.003	32
75051S	1992	561	0.21	0.063	0.003	30
75051S	1996	562	0.228	0.081	0.003	36
75051S	2000	561	0.219	0.08	0.003	37
75054	1981	1302	0.232	0.102	0	44
75054	1988	1302	0.445	0.134	0.004	30
75054	1992	1240	0.249	0.084	0.002	34
75054	1999	1302	0.125	0.087	0.002	70
75055N	1977	270	0.078	0.093	0	99
75055N	1982	407	0.272	0.058	0	21
75055N	1983	407	0.248	0.049	0	20
75055N	1988	407	0.344	0.064	0.003	18
75055N	2000	407	0.332	0.06	0.003	18
75055S	1977	279	0.062	0.117	0	99
75055S	1982	407	0.262	0.046	0	18
75055S	1983	407	0.234	0.057	0	24
75055S	1984	407	0.265	0.057	0.003	22
75055S	1988	407	0.295	0.076	0.004	26
75055S	1993	407	0.278	0.08	0.004	29
75055S	1997	407	0.275	0.1	0.005	36
75058N	1977	441	0.173	0.107	0	62
75058N	1982	638	0.36	0.054	0	15
75058N	1983	638	0.332	0.063	0	19
75058N	1987	638	0.326	0.105	0.004	32
75058N	1991	638	0.311	0.066	0.003	21
75058N	1994	638	0.32	0.081	0.003	25
75058N	1995	638	0.293	0.071	0.003	24
75058N	1996	649	0.29	0.075	0.003	26
75058N	2000	649	0.362	0.076	0.003	21
75058S	1977	441	0.252	0.126	0	50
75058S	1982	638	0.336	0.054	0	16
75058S	1983	638	0.271	0.053	0	20
75058S	1987	638	0.321	0.08	0.003	25
75058S	1991	638	0.299	0.071	0.003	24
75058S	1994	638	0.31	0.079	0.003	25
75058S	1995	638	0.284	0.064	0.003	23
75058S	1996	649	0.281	0.068	0.003	24
75058S	2000	649	0.331	0.087	0.003	26
75059	1980	552	0.138	0.049	0	35
75059	1986	568	0.107	0.047	0.002	44
75059	1990	568	0.092	0.05	0.002	54
75059	1995	560	0.118	0.043	0.002	36
75059	1999	568	0.102	0.058	0.002	56
75066	1985	2384	0.245	0.034	0	14
75066	1989	2400	0.226	0.031	0.001	14
75066	2000	2400	0.192	0.043	0.001	23
75066	2000	2400	0.201	0.049	0.001	24
75070	1978	390	0.161	0.08	0	50
75070	1979	360	0.151	0.068	0	45

75070	1983	370	0.176	0.051	0	29
75070	1987	370	0.165	0.037	0.002	23
75070	1991	370	0.128	0.094	0.005	73
75070	1995	370	0.169	0.059	0.003	35
75111	1979	918	0.25	0.07	0	28
75111	1984	909	0.379	0.082	0.003	22
75111	1988	909	0.287	0.076	0.003	27
75111	1992	909	0.267	0.115	0.004	43
75111	1996	909	0.233	0.084	0.003	36
75111	2000	909	0.216	0.087	0.003	40
75112	1979	460	0.279	0.055	0	20
75112	1982	460	0.323	0.079	0	24
75112	1986		0.36	0.067	0	0
75112	1988	460	0.318	0.082	0.004	26
75112	1992	460	0.28	0.099	0.005	36
75112	1999	460	0.282	0.116	0.005	41
75118	1978	236	0.242	0.078	0	32
75118	1983	253	0.29	0.081	0	28
75118	1986	243	0.317	0.082	0.005	26
75118	1990	250	0.366	0.093	0.006	26
75118	1994	250	0.406	0.109	0.007	27
7513	1980	439	0.107	0.09	0.004	84
7513	1986	442	0.221	0.114	0.005	52
7513	1992	445	0.338	0.088	0.004	26
7513	1995	442	0.252	0.068	0.003	27
7513	1996	443	0.277	0.071	0.003	26
7513	2000	445	0.27	0.07	0.003	26
75186	1979	808	0.163	0.082	0	50
75186	1984	808	0.209	0.061	0.002	29
75186	1986	808	0.277	0.052	0.002	19
75186	1990	808	0.214	0.143	0.005	67
75186	1994	808	0.216	0.085	0.003	39
75186	1998	808	0.221	0.088	0.003	40
75187	1979	1809	0.194	0.051	0	26
75187	1985	1776	0.2	0.119	0	60
75187	1988	904	0.36	0.097	0.003	27
75187	1995	886	0.241	0.071	0.002	30
75187	1999	1165	0.295	0.082	0.002	28
75193E	1977	360	0.161	0.166	0	99
75193E	1981	538	0.257	0.104	0	40
75193E	1987	530	0.325	0.069	0.003	21
75193E	1988	537	0.336	0.069	0.003	20
75193E	1993	537	0.264	0.11	0.005	42
75193E	1994	539	0.237	0.096	0.004	41
75193E	1998	537	0.198	0.104	0.004	52
75193W	1977	360	0.154	0.095	0	62
75193W	1981	539	0.209	0.094	0	45
75193W	1987	532	0.361	0.065	0.003	18
75193W	1988	539	0.337	0.069	0.003	20
75193W	1993	538	0.264	0.109	0.005	41
75193W	1994	537	0.221	0.129	0.006	58
75193W	1998	541	0.199	0.092	0.004	46

75195E	1979	516	0.286	0.084	0	29
75195E	1983	501	0.351	0.058	0	17
75195E	1984	499	0.346	0.05	0	14
75195E	1988	503	0.238	0.08	0.004	34
75195E	1992	498	0.341	0.075	0.003	22
75195E	1995	497	0.279	0.064	0.003	23
75195E	1996	503	0.297	0.067	0.003	23
75195E	2000	505	0.272	0.076	0.003	28
75195W	1979	517	0.242	0.069	0	29
75195W	1983	505	0.295	0.044	0	15
75195W	1984	493	0.306	0.038	0	12
75195W	1988	504	0.173	0.078	0.003	45
75195W	1992	498	0.254	0.102	0.005	40
75195W	1995	504	0.253	0.073	0.003	29
75195W	1996	505	0.262	0.07	0.003	27
75195W	2000	506	0.258	0.076	0.003	30
75197	1979	549	0.208	0.072	0	35
75197	1985	540	0.215	0.08	0.003	37
75197	1991	540	0.238	0.079	0.003	33
75197	1998	549	0.203	0.07	0.003	34
75217S	1979	3096	0.274	0.065	0	24
75217S	1982	3112	0.34	0.072	0	21
75305	1987	144	0.301	0.055	0.005	18
75305	1991	135	0.33	0.07	0.006	21
75305	1995	144	0.246	0.088	0.007	36
75305	1999	144	0.269	0.075	0.006	28
75315	1980	2600	0.077	0.056	0	73
75315	1988	1288	0.064	0.05	0.001	79
75315	1992	1288	0.083	0.07	0.002	84
75315	1996	1288	0.177	0.072	0.002	41
75315	2000	1288	0.202	0.08	0.002	40
75331S	1977	276	0.098	0.081	0	83
75331S	1978	417	0.128	0.064	0	50
75331S	1983	397	0.161	0.067	0	41
75331S	1988	396	0.183	0.07	0.004	38
75331S	1995	399	0.263	0.087	0.004	33
75331S	2000	399	0.211	0.068	0.003	32
75332N	1979	512	0.238	0.091	0	38
75332N	1985	512	0.312	0.084	0.004	27
75332N	1990	511	0.287	0.076	0.003	26
75332N	1994	510	0.36	0.089	0.004	25
75332N	1998		0	0	0	0
75332N	1998	515	0.277	0.07	0.003	25
75332S	1979	545	0.175	0.077	0	44
75332S	1985	540	0.284	0.082	0.004	29
75332S	1990	545	0.173	0.122	0.005	70
75332S	1994	539	0.337	0.084	0.004	25
75332S	1998		0	0	0	0
75332S	1998	541	0.268	0.058	0.002	22
75335N	1980	1597	0.189	0.065	0	35
75335N	1985	1611	0.246	0.048	0.001	20
75335N	1990	1622	0.218	0.085	0.002	39

75335N	1994	1620	0.298	0.083	0.002	28
75335N	1998		0	0	0	0
75335N	1998	1616	0.234	0.07	0.002	30
75335S	1980	1598	0.139	0.053	0	38
75335S	1985	1611	0.25	0.045	0.001	18
75335S	1990	1621	0.233	0.069	0.002	30
75335S	1994	1620	0.253	0.076	0.002	30
75335S	1998		0	0	0	0
75335S	1998	1616	0.204	0.052	0.001	25
75336	1980	1340	0.249	0.074	0	30
75336	1985	1340	0.332	0.057	0	17
75336	1990		0.277	0.117	0	0
75336	1997	670	0.285	0.09	0.003	32
75337N	1980	523	0.216	0.056	0	26
75337N	1985	520	0.288	0.06	0.003	21
75337N	1990	526	0.314	0.115	0.005	37
75337N	1994	528	0.251	0.069	0.003	28
75337N	1998	529	0.233	0.061	0.003	26
75337S	1980	522	0.205	0.066	0	32
75337S	1985	523	0.334	0.067	0.003	20
75337S	1990	525	0.176	0.114	0.005	65
75337S	1994	525	0.295	0.07	0.003	24
75337S	1998	529	0.233	0.061	0.003	26
75338N	1979	808	0.113	0.049	0	43
75338N	1985	806	0.13	0.067	0.002	52
75338N	1990	807	0.166	0.073	0.003	44
75338N	1994	806	0.212	0.061	0.002	29
75338N	1998	808	0.22	0.054	0.002	25
75338S	1979	808	0.141	0.059	0	42
75338S	1985	873	0.234	0.069	0.002	29
75338S	1990	872	0.239	0.078	0.003	33
75338S	1994	870	0.234	0.069	0.002	30
75338S	1998	808	0.22	0.054	0.002	25
75339N	1980	445	0.224	0.079	0	35
75339N	1985	442	0.292	0.069	0.003	24
75339N	1990	440	0.295	0.053	0.003	18
75339N	1999	442	0.261	0.069	0.003	27
75339S	1980	428	0.172	0.061	0	35
75339S	1985	441	0.243	0.065	0.003	27
75339S	1990	441	0.291	0.053	0.003	18
75339S	1999	443	0.248	0.076	0.004	31
75340N	1980	688	0.212	0.086	0	41
75340N	1985	698	0.287	0.098	0.004	34
75340N	1993	692	0.248	0.116	0.004	47
75340S	1980	688	0.195	0.086	0	44
75340S	1985	697	0.253	0.102	0.004	40
75340S	1993	689	0.243	0.108	0.004	44
75340S	1997	699	0.247	0.073	0.003	30
75341	1980	1022	0.167	0.093	0	56
75341	1985	1044	0.24	0.084	0.003	35
75341	1990	978	0.319	0.077	0.002	24
75341	1995	980	0.16	0.088	0.003	55

75341	2000	991	0.191	0.087	0.003	46
75383	1979	433	0.108	0.055	0	51
75383	1985	410	0.199	0.049	0.002	25
75383	1994	435	0.184	0.09	0.004	49
75383	1998	435	0.232	0.063	0.003	27
75420W	1980	878	0.248	0.081	0	33
75420W	1983	952	0.298	0.067	0	22
75420W	1987		0.272	0.072	0	0
75420W	1991	821	0.287	0.072	0.003	25
75420W	1995	891	0.266	0.071	0.002	27
75420W	1997	894	0.261	0.068	0.002	26
75491	1980	433	0.119	0.047	0	40
75491	1989	419	0.108	0.051	0.003	48
75491	1996	420	0.049	0.039	0.002	80
75498	1982	1032	0.212	0.052	0	25
75498	1988	752	0.256	0.072	0.003	28
75498	1992	747	0.247	0.075	0.003	30
75498	1999	750	0.236	0.126	0.005	53
75500	1980	1328	0.066	0.082	0	99
75500	1986	1328	0.072	0.07	0.002	97
75500	1992	1328	0.074	0.091	0.002	122
75500	1996	1336	0.06	0.089	0.002	150
75522	1979	870	0.302	0.077	0	25
75522	1982	798	0.332	0.083	0	25
75522	1986		0.42	0.083	0	0
75522	1988	798	0.446	0.092	0.003	21
75522	1995	798	0.358	0.08	0.003	22
75522	2000	798	0.248	0.086	0.003	35
75529	1979	1250	0.036	0.021	0	59
75529	1985	1476	0.073	0.048	0.001	66
75529	1990	1476	0.081	0.084	0.002	104
75529	1994	1476	0.07	0.048	0.001	68
75529	1996	1476	0.077	0.057	0.001	74
7553	1980	329	0.112	0.073	0.004	65
7553	1986	460	0.213	0.065	0.003	31
7553	1990	460	0.265	0.083	0.004	31
7553	1995	460	0.239	0.085	0.004	36
7553	2000	460	0.179	0.074	0.003	41
75535N	1979	451	0.068	0.061	0	89
75535N	1985	451	0.147	0.095	0.004	65
75535N	1990	451	0.192	0.121	0.006	63
75535N	1994	451	0.184	0.101	0.005	55
75535N	1998	451	0.115	0.054	0.003	47
75535S	1979	451	0.047	0.065	0	99
75535S	1985	451	0.135	0.08	0.004	60
75535S	1990	451	0.158	0.103	0.005	65
75535S	1994	451	0.158	0.095	0.004	60
75535S	1998	451	0.115	0.054	0.003	47
75538	1982	737	0.103	0.044	0	42
75538	1989	367	0.119	0.039	0.002	33
75538	1993	738	0.25	0.086	0.003	34
75538	1997	741	0.183	0.057	0.002	31

75539	1979	447	0.094	0.046	0	599
75539	1985	436	0.173	0.056	0.003	32
75539	1990	437	0.195	0.057	0.003	29
75539	1994	437	0.227	0.072	0.003	32
75539	1998	440	0.138	0.062	0.003	45
75543E	1978	689	0.2	0.075	0	37
75543E	1995		0	0	0	0
75543W	1977	537	0.127	0.092	0	72
75543W	1995		0	0	0	0
75555	1979	1236	0.25	0.079	0	31
75555	1982	1297	0.306	0.095	0	31
75555	1987		0.344	0.062	0	0
75555	1991	1136	0.225	0.064	0.002	28
75555	1995	1163	0.216	0.064	0.002	29
75555	1999	1170	0.306	0.093	0.003	30
75623N	1977	230	0.228	0.093	0	41
75623N	1997		0	0	0	0
75623S	1977	230	0.146	0.072	0	49
75623S	1997		0	0	0	0
75644	1980	1115	0.158	0.075	0	47
75644	1985	1148	0.284	0.075	0	26
75644	1988	1066	0.165	0.1	0.003	61
75644	1992	1148	0.228	0.081	0	0
75644	1999	1067	0.281	0.103	0.003	37
75651N	1980	604	0.099	0.063	0	63
75651N	1985	606	0.153	0.088	0.004	58
75651N	1990	607	0.21	0.107	0.004	51
75651N	1994	602	0.209	0.11	0.004	53
75651N	1998	611	0.218	0.082	0.003	37
75651S	1980	601	0.09	0.071	0	78
75651S	1985	607	0.154	0.08	0.003	52
75651S	1990	604	0.226	0.102	0.004	45
75651S	1994	608	0.195	0.119	0.005	61
75651S	1998	611	0.218	0.082	0.003	37
75667	1980	558	0.19	0.064	0	34
75667	1986	549	0.36	0.093	0.004	26
75667	1991	549	0.378	0.082	0.003	22
75667	1995		0	0	0	0
75677	1981	722	0.305	0.08	0	26
75677	1982	714	0.331	0.078	0	24
75677	1984	714	0.366	0.083	0.003	23
75677	1986	710	0.359	0.08	0.003	22
75677	1991	715	0.319	0.064	0.002	20
75677	1995	712	0.318	0.061	0.002	19
75677	1999	715	0.326	0.072	0.003	22
75678	1981	472	0.105	0.046	0	44
75678	1997	472	0.084	0.031	0.001	37
75694	1984	216	0.145	0.056	0.004	39
75694	1990	224	0.155	0.043	0.003	28
75694	1994	224	0.083	0.038	0.003	46
75701	1979	1488	0.13	0.038	0	29
75701	1983	1448	0.189	0.046	0	24

75701	1987	1448	0.211	0.048	0.001	23
75701	1991	1472	0.265	0.09	0.002	34
75701	1995	1448	0.287	0.083	0.002	29
75701	2000	1456	0.209	0.057	0.002	27
75707S	1979	522	0.248	0.055	0	22
75707S	1985	501	0.329	0.071	0.003	21
75707S	1990	503	0.455	0.086	0.004	19
75707S	1998	508	0.346	0.078	0.003	22
75722	1980	619	0.155	0.084	0	55
75722	1986	601	0.285	0.089	0.004	31
75722	1991	602	0.321	0.1	0.004	31
75722	1997	614	0.277	0.111	0.004	40
75723	1981	472	0.051	0.039	0	77
75723	1992	472	0.05	0.025	0.001	51
75723	1996	472	0.05	0.031	0.001	62
75724	1980	522	0.185	0.073	0	40
75724	1988	522	0.277	0.083	0.004	30
75724	1992	522	0.292	0.069	0.003	24
75724	1999	522	0.321	0.082	0.004	26
75725	1981	682	0.254	0.079	0	31
75725	1991	682	0.3	0.084	0.003	28
75725	1999	693	0.31	0.072	0.003	23
75726	1981	531	0.093	0.041	0	44
75726	1995	531	0.102	0.04	0.002	40
75726	2000	531	0.072	0.039	0.002	54
75731	1977	230	0.214	0.066	0	31
75744	1979	314	0.07	0.047	0	68
75744	1986	321	0.091	0.066	0.004	72
75744	1990	318	0.195	0.097	0.005	50
75744	1994	322	0.226	0.096	0.005	42
75744	1998	319	0.174	0.077	0.004	44
75754	1981	674	0.188	0.084	0	45
75754	1992	666	0.337	0.101	0.004	30
75754	1996	672	0.237	0.074	0.003	31
75754	2000	672	0.282	0.079	0.003	28
75760	1977	867	0.164	0.113	0	69
75760	1985	360	0.266	0.08	0.004	30
75760	1991	1116	0.247	0.08	0.002	32
75760	1995	1116	0.283	0.09	0.003	32
75760	1999	1153	0.206	0.068	0.002	33
75876	1983	441	0.057	0.035	0	61
75876	1989	441	0.056	0.04	0.002	71
75876	1993	441	0.068	0.077	0.004	114
75876	1997	441	0.087	0.061	0.003	70
75919S	1979	532	0.213	0.061	0	29
75919S	1981	540	0.209	0.06	0	29
75919S	1987	529	0.214	0.056	0.002	26
75919S	1991	528	0.25	0.088	0.004	35
75919S	1995	531	0.26	0.08	0.003	31
75919S	2000	524	0.269	0.077	0.003	29
75929	1978	225	0.094	0.104	0	99
75929	1983	225	0.097	0.098	0	99

75929	1984	225	0.097	0.101	0.007	104
75929	1989	216	0.082	0.089	0.006	108
75929	1994	216	0.093	0.082	0.006	88
75929	1999	216	0.055	0.079	0.005	144
75931	1981	660	0.338	0.069	0	20
75931	1986	660	0.424	0.058	0.002	14
75931	1991	270	0.439	0.095	0.006	22
75931	1995	660	0.365	0.084	0.003	23
75931	1999	660	0.375	0.088	0.003	24
75932	1979	726	0.358	0.066	0	18
75932	1980	680	0.451	0.088	0	20
75932	1984	816	0.361	0.064	0	18
75932	1984	816	0.352	0.052	0	15
75932	1984	816	0.317	0.052	0	16
75932	1985	630	0.369	0.05	0	14
75932	1988	670	0.352	0.081	0.003	23
75932	1994	670	0.228	0.082	0.003	36
75932	1998	670	0.265	0.082	0.003	31
75933	1981	590	0.353	0.069	0	20
75933	1982	590	0.425	0.065	0	15
75933	1986	590	0.475	0.059	0.002	13
75933	1995	590	0.394	0.08	0.003	20
75945	1977	430	0.188	0.102	0	54
75945	1980	606	0.141	0.056	0	40
75945	1988	619	0.204	0.067	0.003	33
75945	1992	618	0.224	0.069	0.003	31
75945	1997	667	0.202	0.064	0.002	32
75946	1979	3311	0.351	0.082	0	23
75946	1980	468	0.389	0.072	0	19
75946	1981	462	0.429	0.064	0	15
75946	1983	1218	0.228	0.14	0	61
75946	1987	1068	0.281	0.054	0.002	19
75946	1991	1074	0.345	0.076	0.002	22
75946	1995	1074	0.291	0.065	0.002	22
75946	2000	1196	0.258	0.053	0.002	20
75994	1981	130	0.28	0.085	0	30
76034	1979	1937	0.332	0.074	0	22
76034	1985	1128	0.252	0.157	0.005	62
76034	1991	846	0.175	0.082	0.003	47
76034	1995	846	0.235	0.122	0.004	52
76034	1999	852	0.27	0.105	0.004	39
76044	1983		0	0	0	0
76044	1996		0	0	0	0
76057	1979	756	0.354	0.065	0	18
76057	1980	738	0.336	0.096	0	29
76057	1984	738	0.352	0.075	0	21
76057	1987		0.349	0.069	0	0
76057	1991	714	0.321	0.087	0.003	27
76057	1995	656	0.304	0.089	0.003	29
76057	2000	656	0.294	0.074	0.003	25
76060	2000	576	0.19	0.134	0.006	71
76081S	1979	440	0.321	0.091	0	28

76081S	1980	440	0.329	0.092	0	28
76092	1983	544	0.352	0.079	0	22
76092	1986	543	0.37	0.087	0.004	23
76092	1996	544	0.42	0.073	0.003	17
76092	2000	544	0.266	0.067	0.003	25
76102N	1977	280	0.183	0.107	0	58
76102N	1995		0	0	0	0
76128	1980	370	0.141	0.074	0	53
76158	1979	895	0.31	0.075	0	24
76158	1980	896	0.309	0.063	0	20
76158	1983	808	0.354	0.063	0	18
76158	1986	803	0.368	0.056	0.002	15
76158	1988		0.339	0.056	0	0
76159	1977	416	0.097	0.104	0	99
76159	1978	567	0.167	0.053	0	32
76159	1979	620	0.23	0.045	0	20
76159	1980	610	0.225	0.044	0	20
76159	1988	620	0.212	0.07	0.003	33
76159	1992	620	0.234	0.066	0.003	28
76161	1979	533	0.218	0.079	0	36
76161	1983	520	0.226	0.082	0	36
76161	1987	502	0.282	0.083	0.004	30
76161	1991	500	0.356	0.09	0.004	25
76161	1995	523	0.398	0.094	0.004	24
76161	2000	528	0.463	0.082	0.004	18
76177	1981	1018	0.159	0.063	0	40
76177	1988	1011	0.249	0.087	0.003	35
76177	1992	955	0.187	0.06	0.002	32
76177	1999	958	0.16	0.057	0.002	36
76181E	1979	804	0.114	0.04	0	35
76181E	1985	774	0.09	0.043	0.002	48
76181E	1990	773	0.108	0.071	0.003	65
76181E	1995	773	0.135	0.065	0.002	48
76181E	2000	775	0.114	0.047	0.002	41
76181W	1979	781	0.156	0.045	0	29
76181W	1985	775	0.144	0.052	0.002	36
76181W	1990	774	0.138	0.064	0.002	47
76181W	1995	774	0.172	0.059	0.002	34
76181W	2000	778	0.127	0.052	0.002	41
76185	1977	276	0.118	0.057	0	48
76185	1985	448	0.162	0.077	0	47
76185	1990	453	0.201	0.066	0.003	33
76185	1994	447	0.213	0.076	0.004	36
76185	1996	452	0.224	0.091	0.004	41
76185	2000	453	0.235	0.095	0.004	40
76186	1977	423	0.079	0.076	0	97
76186	1985	560	0.138	0.049	0.002	36
76186	1990	560	0.193	0.058	0.002	30
76186	1994	560	0.156	0.047	0.002	30
76186	1998	560	0.18	0.058	0.002	32
76212	1981	621	0.116	0.065	0	56
76212	1987	621	0.138	0.072	0.003	52

76212	1991	612	0.214	0.095	0.004	45
76212	1995	621	0.198	0.062	0.002	31
76212	1999	621	0.21	0.068	0.003	32
76223	1980	378	0.116	0.043	0	37
76223	1981	387	0.144	0.063	0	44
76223	1987	387	0.256	0.062	0.003	24
76223	1991	378	0.212	0.086	0.004	40
76223	1996	387	0.222	0.089	0.005	40
76226	1981	543	0.133	0.06	0	45
76226	1987	591	0.104	0.065	0.003	63
76301	1984	336	0.221	0.054	0.003	24
76301	1989	364	0.227	0.073	0.004	32
76301	1994	364	0.243	0.074	0.004	31
76301	1996	364	0.222	0.087	0.005	39
76330	1980	530	0.155	0.096	0	62
76339E	1977	659	0.089	0.069	0	78
76339E	1998		0	0	0	0
76339W	1977	653	0.098	0.083	0	85
76339W	1998		0	0	0	0
76364	1979	552	0.052	0.031	0	60
76364	1985	540	0.055	0.03	0.001	55
76364	1990	552	0.059	0.05	0.002	84
76364	1994	552	0.039	0.043	0.002	111
76378	1980	581	0.211	0.038	0	18
76378	1982	597	0.22	0.047	0	21
76378	1987	561	0.253	0.062	0.003	24
76378	1991	578	0.254	0.068	0.003	27
76378	1995	578	0.295	0.08	0.003	27
76378	2000	577	0.166	0.052	0.002	32
76381	1979	766	0.271	0.06	0	22
76381	1980	773	0.253	0.067	0	26
76381	1988	761	0.296	0.08	0.003	27
76381	1993	762	0.299	0.078	0.003	26
76381	1995	529	0.254	0.088	0.004	35
76381	1999	766	0.194	0.101	0.004	52
76382N	1981	526	0.2	0.072	0	36
76382N	1988	527	0.282	0.076	0.003	27
76382N	1997	533	0.286	0.083	0.004	29
76392	1984	870	0.168	0.085	0.003	51
76392	1989	876	0.153	0.084	0.003	55
76392	1993	874	0.173	0.105	0.004	60
76392	1997	880	0.088	0.062	0.002	71
76478	1977	218	0.158	0.091	0	57
76478	1996		0	0	0	0
76528	1980	297	0.111	0.064	0	58
7653	1990	460	0.265	0.083	0.004	31
76540	1977	396	0.065	0.059	0	91
76540	1980	561	0.121	0.062	0	51
76540	1988	559	0.253	0.096	0.004	38
76540	1992	559	0.222	0.11	0.005	50
76540	2000	524	0.154	0.095	0.004	62
76558	1981	477	0.163	0.089	0	55

76558	1986		0.205	0.162	0	0
76558	1990		0.195	0.123	0	0
76558	1994	473	0.13	0.074	0.003	57
76558	1999	474	0.171	0.073	0.003	42
766	1980	478	0.041	0.049	0.002	99
766	1986	473	0.075	0.048	0.002	64
766	1990	473	0.095	0.048	0.002	50
766	1994	477	0.007	0.025	0.001	367
766	1998	477	0.078	0.042	0.002	54
76609	1979	1094	0.37	0.056	0	15
76609	1980	1138	0.372	0.06	0	16
76609	1986	1127	0.407	0.076	0.002	19
76609	1988	1119	0.437	0.108	0.003	25
76609	1993	1129	0.338	0.088	0.003	26
76609	1999	1128	0.392	0.074	0.002	19
76609	2000	1123	0.397	0.082	0.002	21
76615	1981	531	0.205	0.058	0	28
76615	1992	518	0.311	0.096	0.004	31
76615	1998	522	0.256	0.083	0.004	33
76625	1995		0	0	0	0
76633	1980	290	0.117	0.059	0	50
76634	1980	300	0.127	0.039	0	31
76634	1996		0	0	0	0
76639	1982	216	0.087	0.073	0	84
76639	1987	192	0.215	0.076	0.005	35
76639	1991	192	0.223	0.076	0.005	34
76639	1998	192	0.12	0.08	0.006	66
76646E	1977	351	0.095	0.069	0	72
76646E	1985	495	0.208	0.076	0.003	37
76646E	1995	590	0.232	0.09	0.004	39
76646W	1977	308	0.1	0.08	0	79
76646W	1985	495	0.203	0.074	0.003	37
76646W	1988		0	0	0	0
76646W	1995	582	0.277	0.115	0.005	42
76648	1981	840	0.257	0.065	0	25
76648	1991	792	0.37	0.07	0.002	19
76648	1995	781	0.301	0.085	0.003	28
76648	1999	792	0.269	0.089	0.003	33
76649W	1979	359	0.258	0.058	0	23
76649W	1982	348	0.274	0.062	0	23
76649W	1988	347	0.313	0.065	0.004	21
76649W	1991	334	0.318	0.074	0.004	23
76649W	1995	354	0.324	0.074	0.004	23
76649W	1999	351	0.282	0.08	0.004	28
76650N	1983	1806	0.232	0.066	0	28
76650N	1988	1045	0.202	0.081	0.003	40
76650N	1999	970	0.2	0.061	0.002	31
76650S	1983		0.232	0.066	0	0
76650S	1988	962	0.227	0.083	0.003	37
76650S	1999	1069	0.207	0.078	0.002	38
76652	1980	812	0.271	0.068	0	25
76652	1983	885	0.312	0.061	0	20

76652	1984	885	0.301	0.05	0	17
76652	1986		0.299	0.065	0	0
76652	1991	826	0.326	0.076	0.003	23
76652	1995	767	0.257	0.069	0.002	27
76652	1999	767	0.246	0.068	0.002	28
76653	1982	785	0.268	0.085	0	32
76653	1986	774	0.283	0.095	0.003	34
76658	1981	448	0.242	0.042	0	17
76658	1995	440	0.276	0.122	0.006	44
76658	2000	442	0.222	0.067	0.003	30
76659	1981	440	0.196	0.094	0	48
76659	1999	448	0.207	0.103	0.005	50
76660	1981	446	0.208	0.058	0	28
76660	1988	219	0.156	0.123	0.008	79
76660	1992	440	0.269	0.099	0.005	37
76660	1999	439	0.26	0.096	0.005	37
76669	1980	324	0.17	0.06	0	35
76707	1979	292	0.072	0.056	0	78
76707	1986	288	0.079	0.052	0.003	66
76719	1985	650	0.316	0.063	0.002	20
76719	1991	588	0.187	0.079	0.003	42
76719	1995	602	0.2	0.081	0.003	40
76719	2000	607	0.193	0.093	0.004	48
76720	1999		0	0	0	0
768	1981	48	0.021	0.01	0.001	48
768	1992	48	0.034	0.013	0.002	38
76805E	1982	495	0.156	0.067	0	43
76805E	1988	476	0.228	0.069	0.003	30
76805E	1993	498	0.173	0.109	0.005	63
76805W	1982	499	0.138	0.062	0	692
76805W	1988	500	0.268	0.045	0.002	17
76805W	1993	499	0.243	0.103	0.005	43
76845	1984	2400	0.247	0.049	0	20
76845	1987		0.252	0.06	0	0
76845	1991		0.265	0.061	0	0
76845	1996	2384	0.245	0.061	0.001	25
76845	2000	2400	0.242	0.055	0.001	23
76848	1981	852	0.363	0.062	0	17
76848	1986		0.374	0.071	0	0
76848	1991	710	0.294	0.122	0.005	41
76848	1995	710	0.172	0.081	0.003	47
76848	2000	720	0.191	0.082	0.003	43
76850	1980	531	0.215	0.061	0	28
76850	1986	549	0.281	0.067	0.003	24
76850	1990	549	0.08	0.109	0.005	136
76850	1995	549	0.241	0.093	0.004	38
76850	2000	549	0.222	0.054	0.002	24
76856	1982	488	0.166	0.072	0	44
76856	1999		0	0	0	0
76927	1981	229	0.07	0.045	0	65
76927	1987	232	0.09	0.069	0.005	77
76927	1991	228	0.134	0.057	0.004	43

76927	1997	226	0.122	0.057	0.004	47
76986	1981	1128	0.093	0.061	0	65
77054E	1982	622	0.099	0.058	0	59
77054E	1987	636	0.111	0.078	0.003	70
77054E	1991	571	0.196	0.071	0.003	36
77054E	1999	569	0.167	0.083	0.003	49
77054W	1999	562	0.135	0.07	0.003	52
77073	1982	126	0.021	0.018	0	87
77073	1996	579	0.016	0.036	0.002	234
77088	1985	779	0.23	0.091	0.003	40
77088	1990	789	0.22	0.091	0.003	41
77088	1994	784	0.201	0.09	0.003	45
77088	1998	785	0.175	0.082	0.003	47
77090E	1982	564	0.228	0.078	0	34
77090E	1998		0	0	0	0
77090W	1997	287	0.215	0.051	0.003	24
77090W	1998		0	0	0	0
77091E	1982	451	0.158	0.06	0	38
77091E	1987	451	0.161	0.071	0.003	44
77091E	1991	451	0.247	0.101	0.005	41
77091E	1995	451	0.231	0.097	0.005	42
77091E	1999	451	0.108	0.09	0.004	83
77091W	1982	451	0.115	0.069	0	60
77091W	1987	451	0.246	0.078	0.004	31
77091W	1991	451	0.151	0.088	0.004	58
77091W	1995	451	0.181	0.088	0.004	48
77091W	1999	451	0.125	0.079	0.004	63
77091WC	1982	287	0.034	0.082	0	99
77091WC	1987	287	0.27	0.088	0.005	32
77091WC	1991	287	0.241	0.104	0.006	43
77091WC	1997	287	0.215	0.051	0.003	24
77126	1981	1220	0.187	0.055	0	29
77126	1988	1037	0.202	0.072	0.002	36
77126	1995	1037	0.236	0.112	0.003	48
77126	2000	1098	0.291	0.059	0.002	20
77129	1984	488	0.226	0.076	0.003	34
77129	1989	488	0.244	0.086	0.004	35
77129	1993	488	0.242	0.096	0.004	40
77129	1997	488	0.195	0.053	0.002	27
77173E	1982	776	0.378	0.068	0	18
77173E	1986	776	0.467	0.078	0.003	17
77175	1981	220	0.188	0.059	0	31
77175	1987	210	0.264	0.072	0.005	27
77175	1991	210	0.294	0.093	0.006	32
77175	1995	210	0.211	0.068	0.005	32
77175	1999	210	0.186	0.066	0.005	35
77177	1977	1026	0.091	0.079	0	87
77177	1980	1507	0.169	0.066	0	39
77177	1988	1529	0.185	0.091	0.002	49
77177	1993	1529	0.139	0.055	0.001	40
77177	1995	1529	0.198	0.055	0.001	28
77177	1996	1529	0.228	0.052	0.001	23

77177	1997	1529	0.193	0.062	0.002	32
77212	1982	387	0.11	0.05	0	495
77254	1984	1134	0.225	0.075	0	33
77254	1989	1148	0.261	0.078	0.002	30
77254	1993	1148	0.212	0.076	0.002	36
77254	1995		0	0	0	0
77254	2000	1148	0.248	0.084	0.002	34
77289	1985	1294	0.186	0.034	0	18
77295	1983	707	0.159	0.061	0	38
77295	1992	707	0.166	0.047	0.002	28
77303E	1985	638	0.194	0.03	0.001	15
77303E	1987	641	0.188	0.035	0.001	19
77303E	1991	638	0.18	0.067	0.003	37
77303E	1995	640	0.173	0.04	0.002	23
77303E	2000	643	0.123	0.064	0.003	52
77303W	1985	638	0.163	0.026	0.001	16
77303W	1987	642	0.166	0.037	0.001	22
77303W	1991	638	0.167	0.047	0.002	28
77303W	1995	641	0.142	0.038	0.002	27
77303W	2000	641	0.107	0.053	0.002	50
77315	1984	744	0.199	0.051	0.002	26
77315	1989	743	0.226	0.064	0.002	28
77315	1993	743	0.225	0.077	0.003	34
77315	1997	746	0.226	0.05	0.002	22
77349	1984	1176	0.197	0.041	0	21
77349	1988	996	0.2	0.035	0.001	17
77349	1992	996	0.189	0.044	0.001	23
77349	1996	1079	0.21	0.061	0.002	29
77419	1985	1561	0.121	0.034	0.001	28
77419	1990	1561	0.174	0.052	0.001	30
77419	1996	1561	0.136	0.044	0.001	33
77419	2000	1563	0.188	0.047	0.001	25
77426	1984	610	0.21	0.064	0.003	30
77426	1989	610	0.183	0.089	0.004	49
77426	1993	610	0.156	0.094	0.004	60
77426	1996	610	0.135	0.089	0.004	66
77466	1982	442	0.293	0.059	0	20
77466	1986	443	0.273	0.068	0.003	25
77466	1990	402	0.263	0.09	0.004	34
77466	1997		0	0	0	0
77486	1998		0	0	0	0
77487	1998		0	0	0	0
77493	1982	182	0.04	0.024	0	60
77493	1990	189	0.028	0.032	0.002	115
77493	1996	189	0.027	0.027	0.002	97
77501	1983	2400	0.116	0.036	0	31
77501	1989	182	0.132	0.069	0.005	52
77501	1996	182	0.086	0.058	0.004	68
77503	1982	414	0.058	0.052	0	90
77507	1983	140	0.041	0.045	0	99
77521	1984	1350	0.19	0.076	0.002	40
77521	1989	1350	0.243	0.095	0.003	39

77521	1995	722	0.245	0.083	0.003	34
77521	2000	1350	0.296	0.07	0.002	24
77528W	1984	721	0.169	0.047	0.002	28
77528W	1989	721	0.277	0.059	0.002	21
77530	1983	224	0.238	0.078	0	33
77534	1984	624	0.248	0.112	0.004	45
77534	1991	606	0.229	0.062	0.003	27
77534	1997	741	0.183	0.057	0.002	31
77534	1998	625	0.227	0.071	0.003	31
77547	1984	1881	0.214	0.064	0.001	30
77547	1989	1881	0.228	0.072	0.002	31
77556E	1984	876	0.203	0.047	0	23
77556E	1989		0.205	0.061	0	0
77556E	1995		0	0	0	0
77556E	1998	875	0.207	0.062	0.002	30
77556W	1984	793	0.196	0.078	0	40
77556W	1989		0.185	0.091	0	0
77556W	1998	813	0.228	0.098	0.003	43
77753W	1984	1716	0.183	0.068	0	37
77753W	1989	1699	0.24	0.086	0.002	36
77753W	1993	1720	0.31	0.109	0.003	35
77753W	1999	1724	0.248	0.121	0.003	49
77782	1984	552	0.181	0.039	0.002	21
77782	1987	552	0.162	0.039	0.002	24
77782	1991	552	0.151	0.044	0.002	29
77782	1995	552	0.152	0.052	0.002	34
77782	1999	552	0.132	0.082	0.003	62
77816	1984	331	0.137	0.045	0.002	33
77816	1989	332	0.117	0.046	0.003	39
77816	1993	333	0.118	0.068	0.004	58
77816	1997	333	0.082	0.049	0.003	59
77817	1984	261	0.103	0.058	0.004	56
77817	1989	261	0.104	0.065	0.004	63
77817	1993	261	0.111	0.061	0.004	55
77817	1997	261	0.084	0.052	0.003	62
77846	1985	1403	0.146	0.028	0.001	19
77846	1989		0.127	0.043	0	0
77846	1996	1411	0.113	0.062	0.002	55
77847	1997	374	0.186	0.071	0.004	38
77847	1998		0	0	0	0
77859W	1984	374	0.213	0.058	0.003	27
77859W	1989	363	0.18	0.061	0.003	34
77859W	1995	374	0.209	0.089	0.005	42
77859W	1999		0	0	0	0
77872N	1984	552	0.265	0.057	0.002	21
77872N	1989	552	0.277	0.084	0.004	30
77872N	1994	552	0.218	0.062	0.003	28
77872N	1998	552	0.202	0.056	0.002	28
77878	1984	543	0.081	0.055	0.002	67
77878	1989	541	0.08	0.047	0.002	59
77878	1993	540	0.096	0.048	0.002	49
77878	1997	545	0.043	0.045	0.002	105

77919	1984	704	0.215	0.038	0.001	18
77919	2000	704	0.137	0.046	0.002	33
7802	1978	370	0.143	0.095	0.005	71
7802	1980	360	0.22	0.122	0.006	55
7802	1982	360	0.294	0.08	0.004	27
7802	1983	360	0.27	0.067	0.004	25
7802	1987	360	0.293	0.064	0.003	22
7802	1991	360	0.272	0.08	0.004	29
7802	1995	360	0.242	0.08	0.004	33
7802	1999	360	0.2	0.082	0.004	41
78031	1984	3720	0.22	0.041	0	19
78031	1989	1850	0.197	0.037	0.001	19
78031	1994	1850	0.236	0.093	0.002	40
78031	1998	1850	0.309	0.058	0.001	19
78031	1999	1850	0.299	0.058	0.001	19
78041N	1979	3136	0.272	0.072	0	26
78041N	1980	3176	0.241	0.086	0	36
78104	1984	1110	0.187	0.042	0.001	22
78104	1989	1110	0.203	0.064	0.002	32
78104	1993	1110	0.238	0.081	0.002	34
78104	1997	1110	0.229	0.054	0.002	24
78123	1985	578	0.211	0.044	0.002	21
78123	1989	578	0.189	0.05	0.002	27
78123	1993	581	0.162	0.061	0.003	38
78123	1998	584	0.143	0.066	0.003	46
7815	1981	427	0.025	0.03	0.001	99
7815	1989	432	0.041	0.043	0.002	106
7815	1993	429	0.038	0.035	0.002	90
7815	1997	433	0.029	0.025	0.001	87
78152N	1984	387	0.253	0.055	0.003	22
78156	1983		0	0	0	0
78170	1998		0	0	0	0
78194	1985	210	0.124	0.038	0.003	31
78194	1990	210	0.134	0.038	0.003	28
78194	1994	210	0.097	0.029	0.002	30
78194	1998	210	0.042	0.021	0.001	50
78197	1985	210	0.241	0.046	0.003	19
78197	1990	210	0.172	0.073	0.005	42
78197	1994	210	0.231	0.081	0.006	35
78197	1998		0	0	0	0
78199	1984	171	0.262	0.087	0.007	33
78199	1993	171	0.172	0.077	0.006	45
78199	1998	171	0.18	0.058	0.004	32
78204	1999		0	0	0	0
78215	1984	190	0.256	0.087	0.006	34
78215	1993	190	0.177	0.087	0.006	49
78215	1998	190	0.15	0.072	0.005	48
7824	1985	424	0.114	0.056	0.003	49
7824	1992	421	0.095	0.056	0.003	59
7824	1996	425	0.107	0.069	0.003	64
78260	1982	84	0.111	0.066	0	60
78313	1985	549	0.067	0.041	0.002	62

78313	1989	558	0.093	0.051	0.002	55
78314	1985	531	0.055	0.039	0.002	70
78314	1989	531	0.078	0.057	0.002	73
7836	1980	306	0.105	0.097	0.006	92
7836	1986	297	0.206	0.062	0.004	30
7836	1990	306	0.33	0.091	0.005	27
7836	1995	297	0.233	0.106	0.006	45
7836	1999	297	0.296	0.073	0.004	25
786	1985	319	0.185	0.063	0.004	34
786	1989	319	0.18	0.081	0.005	45
786	1993	319	0.137	0.078	0.004	57
786	1997	319	0.146	0.069	0.004	47
7870	1985		0	0	0	0
78709	2000	520	0.287	0.066	0.003	23
7871	1980	184	0.063	0.067	0.005	99
7871	1986	176	0.059	0.057	0.004	97
7871	1990	176	0.08	0.056	0.004	70
7871	1994	176	0.085	0.064	0.005	75
7871	1998	176	0.107	0.077	0.006	72
78730	1985	370	0.054	0.032	0.002	60
78730	1990	370	0.07	0.054	0.003	77
78765	1985	314	0.056	0.045	0.003	80
78765	1989	302	0.122	0.047	0.003	39
78765	1993	312	0.174	0.049	0.003	28
78765	1996	313	0.16	0.062	0.004	39
78808	1985	799	0.135	0.041	0	30
78808	1989	730	0.164	0.059	0.002	36
78808	1993	793	0.18	0.054	0.002	30
78808	1997	814	0.161	0.052	0.002	33
78832	1998		0	0	0	0
78896	1977	552	0.095	0.065	0	68
78896	1980	855	0.127	0.072	0	56
78896	1988	784	0.158	0.069	0.002	44
78896	1992	784	0.163	0.083	0.003	51
78896	1997	784	0.166	0.052	0.002	31
79375	1985	224	0.153	0.137	0.009	90
79375	1992	224	0.149	0.093	0.006	63
79375	1998	231	0.126	0.063	0.004	50
7938	1985	394	0.145	0.073	0.004	50
7938	1989	392	0.12	0.058	0.003	48
7938	1995	476	0.116	0.079	0.004	68
7938	1999	476	0.141	0.088	0.004	62
79432	1985	307	0.03	0.022	0.001	74
79432	1989	307	0.196	0.047	0.003	24
79432	1993	307	0.17	0.059	0.003	35
79432	1996	306	0.132	0.075	0.004	57
79432	2000	311	0.093	0.066	0.004	71
79439	1998		0	0	0	0
79443	1985	429	0.214	0.069	0.003	32
79443	1989	429	0.212	0.075	0.004	35
79443	1993	429	0.217	0.081	0.004	37
79443	1997	429	0.161	0.05	0.002	31

79564	1999		0	0	0	0
79671	1998		0	0	0	0
79766	2000	750	0.177	0.091	0.003	51
7978	1980	540	0.338	0.087	0.004	26
7978	1982	474	0.316	0.076	0.003	24
7978	1988	475	0.377	0.086	0.004	23
7978	1996	477	0.435	0.089	0.004	21
80121	1984	98	0.025	0.016	0.002	67
80121	1992	84	0.05	0.024	0.003	47
80122	1983	128	0.064	0.028	0	44
80122	1992	102	0.047	0.021	0.002	43
80134	1983	98	0.037	0.024	0	65
80134	1992	84	0.049	0.034	0.004	69
80135	1983	84	0.047	0.012	0	26
80135	1992	84	0.034	0.017	0.002	50
80152	1983	84	0.038	0.014	0	37
80152	1992	84	0.033	0.013	0.001	41
80153	1983	98	0.063	0.021	0	33
80153	1992	84	0.045	0.022	0.002	48
8028	1979	506	0.193	0.071	0.003	37
8028	1983	506	0.211	0.074	0.003	35
8028	1988	507	0.246	0.044	0.002	18
8028	1992	506	0.212	0.045	0.002	21
8028	1996	504	0.179	0.071	0.003	40
8036	1979	378	0.203	0.044	0.002	22
8036	1982	317	0.256	0.045	0.003	18
8036	1983	371	0.245	0.041	0.002	17
8036	1987	371	0.221	0.045	0.002	20
8036	1992	371	0.258	0.066	0.003	25
8036	1996	371	0.191	0.065	0.003	34
8077	1984	488	0.088	0.041	0.002	47
8077	1989	488	0.109	0.059	0.003	55
8077	1993	488	0.104	0.056	0.003	54
8077	1997	488	0.075	0.078	0.004	104
820	1980	308	0.176	0.061	0.003	35
820	1986	303	0.145	0.077	0.004	53
820	1990	303	0.163	0.072	0.004	44
8303	1980	423	0.164	0.093	0.005	57
8303	1986	414	0.162	0.067	0.003	41
8303	1990	414	0.29	0.096	0.005	33
8303	1994	414	0.319	0.091	0.004	28
8303	1998	414	0.246	0.11	0.005	45
835	1998		0	0	0	0
8487	1985	486	0.089	0.062	0.003	70
8487	1992	486	0.081	0.092	0.004	112
8487	1996	486	0.046	0.061	0.003	133
8495	1979	312	0.263	0.075	0.004	29
8495	1982	312	0.261	0.073	0.004	28
8495	1989	304	0.372	0.072	0.004	19
8495	1993	304	0.283	0.054	0.003	19
8495	1997	312	0.302	0.059	0.003	20
851	1982	328	0.211	0.053	0.003	25

851	1996		0	0	0	0
8641	1981	396	0.114	0.069	0.003	60
8641	1989	378	0.14	0.079	0.004	57
8641	1993	378	0.117	0.072	0.004	61
8641	1997	387	0.098	0.068	0.003	69
8707	1998	431	0.079	0.054	0.003	68
8719	1978	303	0.228	0.108	0.006	48
8719	1982	341	0.341	0.061	0.003	18
8719	1986	321	0.316	0.051	0.003	16
8719	1988	329	0.34	0.063	0.003	19
8719	1993	328	0.237	0.136	0.007	57
8719	1997	329	0.283	0.084	0.005	30
875	1990	420	0.198	0.032	0.002	16
875	1997	432	0.113	0.052	0.003	46
876	1977	279	0.076	0.06	0.004	79
876	1986	390	0.183	0.071	0.004	39
8781	1999		0	0	0	0
8792	1978	169	0.356	0.064	0.005	18
8792	1983	144	0.157	0.07	0.006	44
8792	1987	144	0.13	0.067	0.006	51
8792	1991	144	0.145	0.066	0.005	45
8792	1995	144	0.201	0.027	0.002	13
8792	1999	144	0.19	0.042	0.004	22
8800	1980	928	0.058	0.048	0.002	83
8800	1986	912	0.108	0.066	0.002	61
8800	1991	912	0.129	0.069	0.002	53
8800	1995	912	0.114	0.066	0.002	58
8800	2000	920	0.132	0.075	0.002	57
887	1978	1314	0.143	0.07	0.002	49
887	1983	1251	0.195	0.088	0.002	45
887	1985	1251	0.248	0.058	0.002	23
887	1988	1251	0.245	0.05	0.001	20
887	1992	1251	0.248	0.065	0.002	26
887	1996	1251	0.216	0.09	0.003	42
8987	1979	144	0.102	0.065	0.005	64
8987	1986	144	0.06	0.043	0.004	72
8987	1992	144	0.04	0.054	0.005	135
8987	1996	143	0.045	0.041	0.003	92
903	1978	891	0.181	0.099	0.003	55
903	1984	846	0.275	0.061	0.002	22
903	1986	846	0.258	0.046	0.002	18
903	1990	846	0.231	0.061	0.002	26
903	1995	846	0.192	0.064	0.002	33
903	2000	855	0.164	0.082	0.003	50
904	1978	441	0.136	0.082	0.004	60
904	1983	423	0.21	0.061	0.003	29
904	1986	414	0.262	0.06	0.003	23
904	1990	423	0.223	0.067	0.003	30
904	1995	423	0.213	0.07	0.003	33
904	2000	423	0.183	0.073	0.004	40
9099	1979	182	0.053	0.05	0.004	94
9099	1986	182	0.075	0.043	0.003	58

9099	1990	182	0.198	0.08	0.006	41
9099	1994	182	0.248	0.098	0.007	39
9099	1999	189	0.204	0.089	0.006	44
9204	1980	266	0.062	0.054	0.003	88
9204	1996		0	0	0	0
9230	1981	147	0.042	0.025	0.002	60
9230	1992	147	0.085	0.03	0.002	35
9230	1997	147	0.085	0.056	0.005	67
9259	1984	482	0.128	0.048	0.002	37
9259	1989	233	0.295	0.069	0.005	23
9259	1993	480	0.285	0.076	0.003	27
9259	1997	482	0.11	0.063	0.003	57
9487	1982	1175	0.071	0.032	0.001	45
9487	1989	1178	0.083	0.045	0.001	54
9487	1996	1176	0.1	0.061	0.002	61
9487	2000	1178	0.128	0.088	0.003	69
9551	1979	1050	0.322	0.077	0.002	24
9551	1980	1057	0.28	0.089	0.003	32
9551	1983	518	0.326	0.068	0.003	21
9551	1986	525	0.177	0.127	0.006	72
9551	1988	836	0.259	0.082	0.003	32
9551	1993	1036	0.241	0.117	0.004	48
9551	1997	1036	0.337	0.097	0.003	29
9590	1985	765	0.054	0.034	0.001	63
9590	1992	765	0.028	0.046	0.002	166
9590	1996	765	0.043	0.038	0.001	88
9596	1982	328	0.191	0.055	0.003	29
962	1979	320	0.033	0.04	0.002	99
962	1986	320	0.041	0.034	0.002	84
962	1990	320	0.036	0.035	0.002	97
962	1995	320	0.089	0.057	0.003	63
9755	1980	320	0.189	0.072	0.004	38
9755	1986	320	0.28	0.082	0.005	29
9755	1990	320	0.237	0.079	0.004	33
9755	1995	152	0.353	0.085	0.007	24
9755	1999	320	0.29	0.106	0.006	36
977	1984	1674	0.234	0.065	0.002	28
977	1989	1677	0.194	0.051	0.001	26
977	1993	1678	0.207	0.086	0.002	42
977	2000	1682	0.182	0.076	0.002	42
983	1980	296	0.158	0.086	0.005	54
983	1986	288	0.15	0.09	0.005	60
983	1990	296	0.232	0.132	0.008	57
9847	1995	360	0.351	0.079	0.004	22
9903	1991	405	0.438	0.078	0.004	18
9903	1996	413	0.367	0.094	0.005	26
9903	1998	497	0.361	0.099	0.004	27
9910	1978	350	0.298	0.091	0.005	31
9910	1982	340	0.339	0.067	0.004	20
9910	1983	340	0.367	0.067	0.004	18
9910	1984		0	0	0	0
9910	1987	340	0.347	0.069	0.004	20

9910	1991	340	0.301	0.089	0.005	30
9910	1995	340	0.29	0.073	0.004	25
9910	1999	340	0.276	0.08	0.004	29
992	1979	420	0.028	0.025	0.001	90
992	1986	420	0.13	0.064	0.003	49
992	1990	420	0.111	0.07	0.003	64
992	1995	420	0.054	0.029	0.001	54
9943	1981	672	0.093	0.076	0.003	82
9943	1989	672	0.115	0.066	0.003	57
9943	1997	672	0.14	0.053	0.002	38
999	1980	378	0.081	0.051	0.003	63
999	1986	371	0.103	0.038	0.002	37
999	1992	371	0.048	0.025	0.001	52
999	1996	371	0.083	0.058	0.003	70

PERCENT MORE NEGATIVE THAN -300 mV

FileNumber	InspectonDate	%>300mV
	1978	68
09219E	1977	1.6
09219E	1985	74.3
09219E	1990	37.3
09469N	1979	13
09469N	1984	88
09469N	1986	59
09469N	1988	4
09469N	1992	2
09469N	1996	4.9
09469S	1988	3
09469S	1992	2
09469S	1996	8.7
09469S	1979	16
09469S	1984	92
09469S	1986	85
1053	1978	19.3
1053	1983	7.1
1053	1987	7.8
1053	1991	6.6
1053	1995	9.1
1053	2000	5.9
1062	1979	0.2
1062	1985	0.4
1062	1990	0.5
1062	1995	4.2
1062	2000	0.4
1085	1980	12.5
1085	1983	35
1085	1986	44.7
1085	1990	55.6
1085	1994	22.9
1085	1998	39.5
1122	1978	3.8
1122	1983	38.9
1122	1986	7.7
1122	1990	5.9
1122	1995	1.5
1137	1980	1.7
1137	1986	1
1137	1990	0.8
1137	1995	0.9
1145	1977	0.5
1145	1985	36.6
1145	1990	57
1145	1994	88.4
1145	1998	16.3
1153	1979	0
1153	1985	0.4

FileNumber	InspectonDate	%>300mV
74954	1991	22.9
74954	1995	14.6
74954	2000	11
74969	1979	0.7
74969	1980	26
74969	1987	26
74969	1991	29
74969	1995	19.4
74969	1999	9.8
74978E	1979	19.6
74978E	1991	31
74978E	1999	7.6
74978W	1991	23.8
74978W	1999	6.8
75014	1980	21
75014	1983	30
75014	1985	76
75014	1988	71
75014	1992	74
75014	1996	65.4
75014	2000	80.6
75016	1977	85
75021	1979	7.9
75021	1983	16
75021	1987	0.1
75021	1991	0.8
75021	1995	1.9
75051N	1979	51
75051N	1982	49
75051N	1986	63
75051N	1990	7
75051N	1992	5
75051N	1996	14.3
75051S	1979	35
75051S	1982	20
75051S	1986	52
75051S	1990	2
75051S	1992	5
75051S	1996	14.4
75054	1981	16.4
75054	1988	90.2
75054	1992	17.5
75054	1999	3.1
75055N	1977	1.5
75055N	1982	25.8
75055N	1983	11.1
75055N	1988	82.9
75055N	2000	80.1
75055S	1977	5.9

FileNumber	InspectonDate	%>300mV
1153	1990	1.3
1153	1994	2.1
1153	1998	5.8
1158	1978	17.8
1158	1982	13.2
1158	1991	21
1158	1995	3.3
1158	1999	2.9
1227	1981	0
1227	1989	2.3
1227	1994	3.6
1227	1999	12.6
1241	1981	0
1241	1989	0
1241	1993	0
1241	1997	0
1245	1978	17.9
1245	1982	48.5
1245	1983	94.5
1245	1987	66.5
1245	1991	12
1245	1995	25
1245	1999	12.1
1303	1978	12.5
1303	1979	0
1303	1980	3.9
1303	1981	2.6
1303	1983	0.7
1303	1987	2.6
1303	1991	1
1303	1995	1.4
1303	1999	1
13117	1977	55.5
13117	1978	49.5
13117	1979	21.9
13117	1980	48.3
13117	1982	53.6
13117	1987	16.8
13117	1991	36
13117	1995	31.5
13117	1999	70
13149	1979	7
13149	1983	6
13149	1987	17.7
13149	1991	25
13166	1980	0
13166	1986	0.6
13166	1990	3.3
13166	1994	14.9
13166	1999	13.8
13181	1978	52.6

FileNumber	InspectonDate	%>300mV
75055S	1982	14.1
75055S	1983	9.7
75055S	1984	21
75055S	1988	54.5
75055S	1993	32.7
75055S	1997	25.1
75058N	1977	9
75058N	1982	85
75058N	1983	66
75058N	1987	63
75058N	1991	55
75058N	1994	59
75058N	1995	33
75058N	1996	27.7
75058N	2000	93.2
75058S	1977	33
75058S	1982	80
75058S	1983	21
75058S	1987	60
75058S	1991	45
75058S	1994	49
75058S	1995	32
75058S	1996	23.9
75058S	2000	62.8
75059	1980	0
75059	1986	0
75059	1990	1
75059	1995	0.2
75059	1999	0.5
75066	1985	3
75066	1989	2
75066	1996	0.5
75066	2000	2.1
75070	1978	1.9
75070	1979	0.6
75070	1983	1.7
75070	1987	0.4
75070	1991	3.6
75070	1995	1.8
75111	1979	19
75111	1984	83
75111	1988	36
75111	1992	25
75111	1996	14.8
75111	2000	12.4
75112	1979	24.1
75112	1982	56.9
75112	1986	86.4
75112	1988	52
75112	1992	36.1
75112	1999	39.9

FileNumber	InspectonDate	%>300mV
13181	1979	16.4
13181	1983	43.1
13181	1986	52.1
13181	1990	59
13181	1995	83
13181	1999	73.2
13370	1979	0.9
13370	1983	61.1
13370	1987	2
13370	1991	1
13370	1995	1
13370	1999	0.9
1340	1982	0
1340	1996	0
13486	1981	1
13486	1989	4
13486	1993	2
13486	1996	12.8
135	1981	2.9
135	1987	0.4
135	1991	0
135	1995	1.6
135	2000	0.3
13587	1979	0.8
13587	1985	38.7
13587	1991	69.9
13587	1999	47.6
13625	1981	17.6
13625	1987	24.8
13625	1991	29.9
13625	1995	30.4
13625	2000	16
13742	1977	0
13742	1981	0.2
13742	1982	0.1
13742	1989	80.3
13742	1993	18
13742	1998	3
13821	1977	1.2
13821	1985	5.4
13821	1990	13.4
13824	1979	96
13824	1987	95
13824	1988	4
13824	1997	16.9
13838	1977	0
13838	1981	0.2
13838	1982	0.1
13838	1984	0.2
13838	1989	2.1
13838	1993	0.5

FileNumber	InspectonDate	%>300mV
75118	1978	16
75118	1983	39.7
75118	1986	57.9
75118	1990	78.4
75118	1994	84.9
7513	1980	3
7513	1986	30
7513	1992	75
7513	1995	22
7513	1996	37.1
7513	2000	14.1
75186	1979	6.9
75186	1984	8
75186	1986	23.5
75186	1990	16.8
75186	1994	9.9
75186	1998	9.8
75187	1979	3.5
75187	1985	16.4
75187	1988	77
75187	1995	12
75187	1999	36.1
75193E	1977	15.1
75193E	1981	34.3
75193E	1987	72.4
75193E	1988	73.6
75193E	1993	24
75193E	1994	19.4
75193E	1998	10.1
75193W	1977	4.2
75193W	1981	13.9
75193W	1987	89.6
75193W	1988	68.9
75193W	1993	25.5
75193W	1994	19
75193W	1998	8.1
75195E	1979	42
75195E	1983	84
75195E	1984	89
75195E	1988	18
75195E	1992	73
75195E	1995	30
75195E	1996	41.9
75195E	2000	29.7
75195W	1979	19
75195W	1983	45
75195W	1984	59
75195W	1988	4
75195W	1992	33
75195W	1995	24
75195W	1996	29.7

FileNumber	InspectonDate	%>300mV
13838	1999	3.6
13852	1981	0
13852	1989	1.1
13852	1993	9.6
13852	1997	2.8
1402	1980	0.8
1402	1986	0.4
1402	1995	0.6
1409	1978	1
1409	1983	6
1409	1989	10
1409	1993	9
1409	1997	3.6
1426	1978	0.1
1426	1983	0.2
1426	1987	0.7
1426	1991	0
1426	1995	2.1
1426	2000	1.9
1427	1978	1.6
1427	1983	2.5
1427	1987	10.1
1427	1991	0.3
1427	1999	0.8
1432	1980	2
1432	1986	0
1432	1996	0.2
149	1981	0
149	1989	0
149	1993	0
149	1997	0
1517	1978	17.7
1517	1982	66.3
1517	1986	85.2
1517	1990	96.5
1517	1994	99.4
1517	1998	100
1536	1982	36.6
1606	1979	0
1606	1984	0
1606	1989	0
1606	1993	0
1606	1997	0.1
1632	1984	0.4
1632	1989	0.5
1632	1993	0.7
1632	1997	0.7
1669	1982	0
1669	1992	0
1669	1996	0
167	1981	3.3

FileNumber	InspectonDate	%>300mV
75195W	2000	24.7
75197	1979	8.3
75197	1985	12.1
75197	1991	19.9
75197	1998	5.3
7524	1978	95
75305	1987	51.4
75305	1991	59.2
75305	1995	17.4
75305	1999	22.4
75315	1980	0
75315	1988	0
75315	1992	0
75315	1996	4.1
75315	2000	7.1
75331S	1977	2.7
75331S	1978	2
75331S	1983	4.6
75331S	1988	6.7
75331S	1995	32.4
75331S	2000	5.8
75332N	1979	27.2
75332N	1985	60
75332N	1990	37
75332N	1994	79
75332N	1998	37.7
75332S	1979	3.8
75332S	1985	46.2
75332S	1990	9.2
75332S	1994	57
75332S	1998	28.8
75335N	1980	4.5
75335N	1985	8.8
75335N	1990	9.7
75335N	1994	47.3
75335N	1998	11.7
75335S	1980	0.3
75335S	1985	10.5
75335S	1990	12.6
75335S	1994	21.8
75335S	1998	1.6
75336	1980	31
75336	1985	74
75336	1990	48
75336	1997	36
75337N	1980	5.7
75337N	1985	39.5
75337N	1990	51.5
75337N	1994	20.4
75337N	1998	10.2
75337S	1980	5.1

FileNumber	InspectonDate	%>300mV
167	1989	74.2
167	1993	27.4
167	1997	38.2
1694	1984	0
1694	1996	28.2
1766	1981	46.6
1766	1986	62.3
1766	1990	68.2
1766	1994	59.9
1766	2000	8.1
1767	1980	21
1767	1981	27
1767	1991	11
1767	1996	5.8
1797	1979	6.6
1797	1985	0.8
1797	1990	1.3
1797	1995	0.1
1797	2000	0.3
1810	1978	9
1810	1983	13
1810	1989	14
1810	1993	13
1810	1996	8.6
1843	1981	5
1843	1996	1.4
189	1978	1.1
189	1981	7.1
189	1987	7.4
189	1991	26.9
189	1999	35.6
189	1980	0
189	1986	0
189	1990	0
189	1994	1
189	1996	1.3
189	2000	4.7
1894	1980	0.4
1894	1986	0.6
1894	1990	1.3
1894	1995	5
1894	2000	2.2
1916	1978	0
1916	1982	0.3
1916	1989	2.1
1916	1993	4
1916	1997	0.1
1938	1981	53.5
1980	1979	37.5
1980	1983	36.2
1980	1986	28.1

FileNumber	InspectonDate	%>300mV
75337S	1985	61.9
75337S	1990	7.3
75337S	1994	46.7
75337S	1998	23.6
75338N	1979	0
75338N	1985	1.3
75338N	1990	3
75338N	1994	5.7
75338N	1998	6.1
75338S	1979	1
75338S	1985	13
75338S	1990	14.8
75338S	1994	13.9
75338S	1998	4.8
75339N	1980	14.7
75339N	1985	50
75339N	1990	41.1
75339N	1999	30.1
75339S	1980	1.3
75339S	1985	15.7
75339S	1990	37.6
75339S	1999	23
75340N	1980	15.1
75340N	1985	47.7
75340N	1993	30.4
75340S	1980	15.1
75340S	1985	30.3
75340S	1993	27
75340S	1997	21.3
75341	1980	7
75341	1985	21.6
75341	1990	58.8
75341	1995	6
75341	2000	8.8
75383	1979	0.4
75383	1985	1.2
75383	1990	40.3
75383	1994	6.1
75383	1998	10.4
75420W	1980	29
75420W	1983	58
75420W	1987	0
75420W	1991	38
75420W	1995	28
75420W	1997	26.2
75491	1980	0
75491	1989	0
75491	1996	0
75498	1982	5.5
75498	1988	20.2
75498	1992	15.8

FileNumber	InspectonDate	%>300mV
1980	1990	20.8
1980	1995	35
1980	1999	22.5
2008	1980	0
2008	1986	56
2008	1996	32.6
2029	1984	22.9
2047	1981	69
2102	1981	1
2102	1992	1.2
2102	1996	3.3
2102	2000	1.7
2143	1981	2
2143	1987	15.3
2143	1991	16.4
2143	1995	5.7
2143	2000	22.7
2212	1980	2
2212	1986	1
2212	1992	7
2212	1996	5.3
2233	1978	31.5
2233	1982	25
2233	1983	15.4
2233	1984	36.5
2233	1988	28
2233	1993	27.2
2233	1997	49.4
2235	1979	47
2235	1980	66
2235	1982	36
2235	1988	8
2235	1992	7
2235	1996	15.3
2235	2000	6
2236	1980	8.3
2236	1982	18.1
2268	1978	0
2301	1981	1
2301	1989	0
2301	1993	0
2301	1997	1
2302	1998	1.7
233	1979	45
233	1980	69
233	1983	83
233	1984	22
233	1988	32
233	1993	13
233	1997	17.8
2337	1979	1

FileNumber	InspectonDate	%>300mV
75498	1999	25
75500	1980	1.1
75500	1986	0.3
75500	1992	1.1
75500	1996	0.1
75522	1979	51.1
75522	1982	68.3
75522	1986	96.2
75522	1988	97.5
75522	1995	83.4
75522	2000	12.3
75529	1979	0
75529	1985	0
75529	1990	5
75529	1994	0
75529	1996	0.1
7553	1980	1.6
7553	1986	8.1
7553	1990	13.6
7553	1995	14.3
7553	2000	6.5
75535N	1979	0.7
75535N	1985	3.5
75535N	1990	11.6
75535N	1994	6.9
75535N	1998	0
75535S	1979	0.8
75535S	1985	2.1
75535S	1990	4.3
75535S	1994	3.9
75535S	1998	2
75538	1982	0.4
75538	1989	0
75538	1993	23.6
75538	1997	1
75539	1979	0.3
75539	1985	0.6
75539	1990	2.3
75539	1994	13.5
75539	1998	0.4
75543E	1977	6.4
75543W	1977	1.9
75555	1979	25.7
75555	1982	53
75555	1987	84.3
75555	1991	7
75555	1995	6
75555	1999	51.1
75623N	1977	15
75623S	1977	1
75651N	1980	0.6

FileNumber	InspectonDate	%>300mV
2337	1986	0
2337	1995	0
2337	1996	0.1
2359	1978	5
2359	1983	29
2359	1985	4
2359	1989	2
2359	1993	5
2359	1996	4
2401	1979	1.6
2401	1986	17
2401	1990	21.1
2401	1993	55.7
2401	1994	22
2401	1995	30
2401	1996	16.3
2401	1997	28.4
2430	1979	16.6
2430	1986	22.9
2430	1990	14.6
2430	1994	0.8
2430	1998	0.6
2431	1984	0
2431	1989	1
2431	1993	0
2431	1997	0
248	1997	17.4
2487	1979	42
2487	1983	29
2487	1986	44
2487	1990	41
2487	1992	34
2487	1996	1.7
272	1983	33.5
272	1986	28.3
272	1990	12.4
272	1995	0.9
274	1982	0
274	1992	0
274	1996	0
277	1984	0.6
277	1995	0
277	1999	0
286	1981	0
286	1989	0
286	1993	0
286	1997	0
304	1981	0
304	1996	0
309	1985	0
309	1992	1

FileNumber	InspectonDate	%>300mV
75651N	1985	4.8
75651N	1990	17.5
75651N	1994	18
75651N	1998	15.6
75651S	1980	0.5
75651S	1985	4.5
75651S	1990	18.9
75651S	1994	16.3
75651S	1998	58.5
75667	1980	2.8
75667	1986	80.7
75667	1991	90.2
75677	1981	54.7
75677	1982	67.1
75677	1984	85.6
75677	1986	86.5
75677	1991	57.1
75677	1995	55.7
75677	1999	60.7
75678	1981	0
75678	1997	0
75694	1984	1.9
75694	1990	0.7
75694	1994	0
756N	1977	0
756N	1981	2
756N	1987	4
756N	1991	2
756N	1997	3
75701	1979	0
75701	1983	1.7
75701	1987	1.7
75701	1991	32
75701	1995	39.2
75701	2000	3.7
75707S	1979	14.9
75707S	1985	71.1
75707S	1990	97.2
75707S	1998	78.4
75722	1980	3.5
75722	1986	40.5
75722	1991	54.5
75722	1997	33.6
75723	1981	0
75723	1992	0
75723	1996	0
75724	1980	4
75724	1988	39.1
75724	1992	34.9
75724	1999	58.4
75725	1981	27.3

FileNumber	InspectonDate	%>300mV
309	1996	0.4
310	1978	10.9
310	1983	9.7
310	1988	19.9
310	1993	21.5
310	1997	8.2
313	1998	0
315	1979	0
315	1986	1.1
315	1990	1.9
315	1994	3.1
315	1996	0.6
340	1980	0
340	1986	0
340	1990	0
340	1995	0
340	2000	0
358	1979	0.5
358	1986	0.1
358	1990	0.1
358	1994	0
358	1999	0
395	1978	12
436	1980	3.3
436	1986	3.6
436	1990	6.6
436	1995	5.9
436	2000	4.4
457	1977	0.2
457	1981	5.4
457	1987	4.7
457	1991	8.6
457	1999	6.9
521	1978	69.6
521	1984	98.2
570	1985	4
570	1990	9
570	1994	6
570	1998	1.1
589	1979	8.9
589	1983	31.4
589	1987	0.1
589	1991	2.1
589	1995	12
589	1999	8.1
611	1981	37
611	1982	31
611	1988	45
611	1996	27.6
653	1978	31.4
6548	1980	0
75725	1991	58.8
75725	1999	79.7
75726	1981	0
75726	1995	0
75731	1977	4.6
75744	1979	0
75744	1986	0.1
75744	1990	16.5
75744	1994	22.1
75744	1998	4.5
75754	1981	9
75754	1992	69
75754	1996	16.3
75754	2000	39.1
75760	1977	9.1
75760	1985	29
75760	1991	14.4
75760	1995	22.3
75760	1999	5.8
75876	1983	0
75876	1989	0
75876	1993	1.3
75876	1997	0.2
75919S	1979	5.9
75919S	1981	4.2
75919S	1987	3
75919S	1991	30
75919S	1995	29
75919S	2000	3.7
75929	1978	5.5
75929	1983	3.3
75929	1984	4.2
75929	1989	3.6
75929	1994	2.9
75929	1999	1.6
75931	1981	87.8
75931	1986	99.5
75931	1991	95.8
75931	1995	80
75931	1999	83.8
75932	1979	86
75932	1980	96
75932	1984	89
75932	1984	65
75932	1984	89
75932	1985	95
75932	1988	72.2
75932	1994	10.5
75932	1998	22.8
75933	1981	84.7
75933	1982	98.8

FileNumber	InspectonDate	%>300mV
6548	1986	0
6548	1992	0
6548	1996	0.1
6565	1978	30
6565	1979	2
6565	1980	29
6565	1982	26
6565	1987	4
6565	1991	12
6565	1992	9
6565	1996	7.8
6565	2000	2.4
6615	4.8	-215
6733	1980	0
6733	1986	0
6733	1992	0
6733	1996	0
6809	1981	0
6809	1989	0
6809	1993	0
6809	1997	31
698	1980	0
698	1985	0
698	1990	0
698	1995	0
698	1999	0.9
6985E	1998	1.6
6985W	1977	11
6985W	1978	24
6985W	1978	13
6985W	1979	18
6985W	1980	44
6985W	1982	14
6985W	1988	5
6985W	1992	3
6985W	1996	7.6
70009	1978	64
70009	1982	5.6
70009	1987	8.4
70009	1991	4
70009	1995	12.9
70009	1997	8.9
70022	1977	0
70022	1985	7.8
70022	1990	8.8
70022	1994	10.1
70022	1998	3.8
70156	1978	16.5
70156	1979	0
70156	1980	2.5
70156	1986	1.8

FileNumber	InspectonDate	%>300mV
75933	1986	100
75933	1995	92.3
75945	1977	8.6
75945	1980	0.5
75945	1988	6.5
75945	1992	12.5
75945	1997	3.8
75946	1979	80
75946	1980	92
75946	1981	99
75946	1983	39
75946	1987	32
75946	1991	80
75946	1995	45
75946	2000	11.2
75994	1981	40.6
76034	1979	63.9
76034	1985	53.3
76034	1991	3
76034	1995	23.1
76034	1999	35
76057	1979	82.7
76057	1980	70.3
76057	1984	82.5
76057	1987	86.3
76057	1991	51.6
76057	1995	42.7
76057	2000	35.2
76060	2000	15.8
76081S	1979	56.7
76081S	1980	61.7
76092	1983	80
76092	1986	85
76092	1996	97.2
76092	2000	26.4
76128	1980	3.8
76133	1981	0
76133	1990	0
76158	1979	51.1
76158	1980	53.9
76158	1983	85.4
76158	1986	94
76158	1988	78.4
76159	1977	2.2
76159	1978	1.8
76159	1979	5.8
76159	1980	4.7
76159	1988	5.5
76159	1992	10.1
76161	1979	13.6
76161	1983	17.3

FileNumber	InspectonDate	%>300mV
70156	1990	7.8
70156	1994	9
70156	1998	2.6
70247	1980	68
70247	1986	85
70247	1991	67
70247	1996	51.2
70277	1982	0.9
70277	1988	0.7
70277	1993	3
70277	1997	1.1
70509	1984	0
70509	1993	0
70509	1996	0.1
70566	1978	6.2
70566	1983	9.8
70566	1987	18
70566	1991	25.2
70566	1999	9.1
70580	1978	83
70580	1983	72.4
70580	1984	75.3
70580	1987	91.9
70580	1991	85
70580	1995	95.3
70594	1978	65.8
70594	1982	60.1
70594	1986	34.6
70594	1990	79.4
70594	1994	10
70594	1998	12.4
70626	1980	4.5
7086	1984	0.2
7086	1992	0.4
70935	1978	5.3
70935	1983	57.1
70935	1985	66.7
70935	1990	15.6
70935	1994	14.2
70935	1998	13.8
710	1980	4
710	1985	4
710	1990	9
710	1992	10
710	1996	13.3
710	2000	0.1
71019	1980	1
71019	1987	36.8
71019	1991	77.3
71019	1995	86
71019	1999	85

FileNumber	InspectonDate	%>300mV
76161	1987	43.8
76161	1991	77.2
76161	1995	91.4
76161	2000	99.7
76177	1981	3.2
76177	1988	25.3
76177	1992	4
76177	1999	3.3
76181E	1979	0.1
76181E	1985	0
76181E	1990	1
76181E	1995	0.8
76181E	2000	0.1
76181W	1979	1.5
76181W	1985	0
76181W	1990	0
76181W	1995	1
76181W	2000	0
76185	1977	1
76185	1985	3
76185	1990	5
76185	1994	12
76185	1996	16.5
76185	2000	18.2
76186	1977	1.5
76186	1985	0.3
76186	1990	2.6
76186	1994	0.5
76186	1998	2.9
76212	1981	0.8
76212	1987	1.5
76212	1991	12
76212	1995	4.3
76212	1999	5.5
76223	1980	0.2
76223	1981	1.2
76223	1987	12
76223	1991	9.8
76223	1996	11.9
76226	1981	1.1
76226	1987	0.8
76301	1984	5
76301	1989	7
76301	1994	9
76301	1996	8.7
76330	1980	8.6
76339E	1977	0.7
76339W	1977	2.9
76364	1979	0.8
76364	1985	3.6
76364	1990	24.4

FileNumber	InspectonDate	%>300mV
71054	1979	0.7
71054	1986	1.5
71054	1990	3.9
71054	1994	4.3
71054	2000	7.9
7109	1980	0
7109	1986	0
7109	1996	0.8
71116	1984	3
71116	1988	7
71116	1992	11
71116	1996	6.4
71145	1978	0.1
71145	1982	0.3
71145	1989	1.2
71145	1993	31.1
71145	1996	7
71145	1997	2.2
71145	1998	8.4
71291	1982	1.6
71291	1988	13.1
71291	1992	40.9
71291	1995	9.3
713	1981	3
71313	1979	4
71313	1986	80
71313	1988	47
71313	1992	34
71313	1996	47.7
71316	1979	0.3
71316	1985	33.3
71316	1990	11.3
71316	1994	24.4
71316	1999	22.8
71504	1980	0.6
71504	1987	2.7
71504	1991	3.1
71504	1995	3.8
71504	1999	6.3
7168	1979	0
7168	1986	0
7168	1990	0
7168	1994	0
7168	1998	5.1
71827	1978	1.1
71827	1986	14.6
72007W	1978	99
72007W	1980	65.6
72007W	1987	52.1
72007W	2000	3.4
72094	1979	22

FileNumber	InspectonDate	%>300mV
76364	1994	21.7
76364	1996	52.9
76378	1980	0.8
76378	1982	3.6
76378	1987	24.4
76378	1991	22
76378	1995	52.9
76378	2000	0.4
76381	1979	32.2
76381	1980	24.7
76381	1988	46.1
76381	1993	47.5
76381	1995	27
76381	1999	10
76382N	1981	7.8
76382N	1988	43.2
76382N	1995	27
76382N	1997	45.3
76392	1984	7
76392	1989	4
76392	1993	9
76392	1997	0
76478	1977	14
76528	1980	0
7653	1990	19.2
76558	1981	3.1
76558	1986	45.1
76558	1990	15.9
76558	1994	0.7
76558	1999	5.7
766	1980	0
766	1986	0
766	1990	0
766	1994	0
766	1998	0
76609	1979	90
76609	1980	90.4
76609	1986	91.6
76609	1988	95.5
76609	1993	60
76609	1999	91.7
76615	1981	5.4
76615	1992	51.2
76615	1998	40.2
76633	1980	0
76634	1980	0
76639	1982	1
76639	1987	9.4
76639	1991	7.4
76639	1998	1.6
76646E	1977	0

FileNumber	InspectonDate	%>300mV
72094	1982	66
72094	1983	45
72094	1987	43
72094	1991	68.1
72094	1996	31.5
72094	2000	22.1
72186	1977	3.4
72345	1984	0
72345	1992	0
72345	1996	1.3
72467	1980	0
72467	1986	0
72467	1990	0.5
72467	1994	13
72467	1998	3.4
72533S	1978	0.3
72533S	1983	2.1
72533S	1987	1.3
72533S	1991	3
72533S	1995	11
72533S	1999	5.7
72535S	1978	3.1
72535S	1983	12
72535S	1987	3.2
72535S	1991	11.3
72535S	1997	20.4
72545	1979	37.8
72545	1984	67.1
72545	1986	99.2
72551N	1979	7
72551N	1982	17
72551N	1983	5
72551N	1987	3
72551N	1991	51
72551N	1992	16
72551N	1996	12.2
72551S	1979	11
72551S	1982	16
72551S	1983	8
72551S	1987	12
72551S	1991	61
72551S	1992	26
72551S	1996	16.6
7256	1981	0
7256	1989	0
7256	1993	0
7256	1997	0
72631	1981	0
72640	1981	0
72640	1987	0
72640	1998	0

FileNumber	InspectonDate	%>300mV
76646E	1985	8.6
76646E	1995	16.9
76646W	1977	0
76646W	1985	8.7
76646W	1995	39.5
76648	1981	23.8
76648	1991	88.7
76648	1995	47
76648	1999	33.2
76649W	1979	21.1
76649W	1982	34.2
76649W	1988	67.4
76649W	1991	70
76649W	1995	66
76649W	1999	38.3
76650N	1983	15.5
76650N	1988	16.5
76650N	1999	8
76650S	1988	13.3
76650S	1999	10.8
76652	1980	34.4
76652	1983	67.6
76652	1984	50.9
76652	1986	56.9
76652	1991	64
76652	1995	18.9
76652	1999	15.6
76653	1982	42.5
76653	1986	54.9
76658	1981	3.1
76658	1995	35.1
76658	2000	7
76659	1981	10
76659	1999	10
76660	1981	6.3
76660	1988	6.6
76660	1992	38
76660	1999	24.6
76669	1980	1.3
76707	1979	0.8
76707	1986	0.7
76719	1985	52.2
76719	1991	7.3
76719	1995	9.6
76719	2000	9.2
768	1981	0
768	1992	0
76805E	1982	1.4
76805E	1988	14
76805E	1993	7.9
76805W	1982	15

FileNumber	InspectonDate	%>300mV
72705	1982	89.8
72705	1986	99.1
72705	1989	95.8
72810E	1985	0.5
72810E	1989	18.9
72810E	1994	0.1
72810W	1985	0.8
72810W	1989	0.6
72810W	1994	0
7295	1981	0
7295	1989	0
7295	1995	0
73184	1985	0.9
73184	1989	1.8
73184	1993	1.7
73184	1998	1.2
73274	1985	0
73274	1989	0
73274	1993	2
73274	1996	0.8
73275	1985	52.2
73275	1989	57
73275	1993	0.9
73275	1997	7
73277	1984	13.8
73277	1989	10.6
73277	1993	10.9
73277	2000	4.2
73407	1979	4.9
73407	1983	51.9
73407	1986	77.2
73407	1990	33.4
73407	1994	43.8
73407	1998	61.1
73410	1979	0
73410	1983	3
73410	1987	42
73410	1991	91
73410	1996	49.1
73420	1981	2
73420	1989	3
73420	1993	12
73420	1997	1
73425	1978	32
73425	1983	33
73425	1986	83
73425	1988	93
73425	1993	50
73425	1996	27.7
73425	2000	15.1
73425	1999	6.2

FileNumber	InspectonDate	%>300mV
76805W	1988	22.4
76805W	1993	19.2
76845	1984	11
76845	1987	0
76845	1991	0
76845	1996	13.2
76845	2000	4.4
76848	1981	87.7
76848	1986	91.1
76848	1991	35.8
76848	1995	2.9
76848	2000	5
76850	1980	4.7
76850	1986	34.2
76850	1990	1.7
76850	1995	16.9
76850	2000	5.2
76856	1982	2.3
76927	1981	0
76927	1987	0.6
76927	1991	1
76927	1997	0.9
76986	1981	0.3
77054E	1982	0.3
77054E	1987	1
77054E	1991	6.7
77054E	1999	6.3
77054W	1999	3.3
77073	1982	0
77073	1996	0
77088	1985	23
77088	1990	20.2
77088	1994	18
77088	1998	11.2
77090E	1982	13.9
77090W	1997	3.1
77091E	1982	1.7
77091E	1987	17.5
77091E	1991	19.3
77091E	1995	15.7
77091E	1999	36.1
77091W	1982	1
77091W	1987	32
77091W	1991	23
77091W	1997	3.2
77091W	1999	2.6
77091WC	1982	1.3
77091WC	1987	32
77091WC	1991	22.8
77091WC	1997	3.1
77120	1997	2.3

FileNumber	InspectonDate	%>300mV
73429	1980	17
73429	1984	70
73429	1986	1
73429	1990	0
73429	1996	5.8
73429	2000	13.2
73496N	1978	20.1
73496N	1982	30.5
73496N	1986	53.7
73496N	1990	27.4
73527	1978	24.7
73527	1980	89.4
73527	1984	99.4
73595	1978	14.2
73621	1977	2
73621	1985	12.1
73621	1990	31.5
73621	1994	11.1
73621	1998	3.3
73636	1979	13.6
73636	1983	39.6
73636	1986	51
73636	1990	46
73636	1995	17.5
73636	1999	11.8
73637	1990	0
73637	1997	0.3
73640	1977	68
73640	1978	0
73640	1978	0
73640	1979	9
73640	1980	17
73640	1981	7
73640	1988	13
73640	1993	3
73640	1996	0.3
7373	1981	0
7373	1996	0
73757	1985	0
73757	1992	6
73757	1999	9.6
7377	1981	4
7377	1992	14
7377	1996	15.5
73779	1984	1
73779	1989	1
73779	1994	0
73779	1999	4.6
73810W	1984	6
73810W	1987	28
73810W	1991	5

FileNumber	InspectonDate	%>300mV
77126	1981	1.7
77126	1988	8.6
77126	1995	26.4
77126	2000	36
77129	1984	10.6
77129	1989	14.3
77129	1993	17
77129	1997	2.4
77173	1982	91.2
77173	1986	99.2
77177	1977	1
77177	1980	4
77177	1988	9
77177	1993	0
77177	1995	2
77177	1996	6
77177	1997	2
77212	1982	16
77254	1984	14.4
77254	1989	24.7
77254	1993	8.4
77254	2000	16
77289	1985	0.6
77295	1983	3.1
77295	1992	0.5
77303E	1985	0.3
77303E	1987	0.2
77303E	1991	1.3
77303E	1995	0.2
77303E	2000	0.4
77303W	1985	0
77303W	1987	0.2
77303W	1991	0.1
77303W	1995	0
77315	1984	6.1
77315	1989	10.9
77315	1993	13.9
77315	1997	5.8
77349	1984	0
77349	1988	0
77349	1992	0
77349	1996	3.7
77419	1985	0
77419	1990	0
77419	1996	0
77419	2000	0.1
77426	1984	6
77426	1989	8
77426	1996	2
77466	1982	50.3
77466	1986	35.8

FileNumber	InspectonDate	%>300mV
73810W	1996	9.3
73810W	2000	5.1
73819	1978	9
73819	1978	28
73819	1983	9
73819	1987	3
73819	1991	1
73819	1997	0
73836	1979	3
73836	1982	4
73836	1985	49
73836	1988	65
73836	1992	91
73836	1996	22.4
73836	2000	34.1
73837	1984	13.7
73837	1987	7.5
73837	1991	10.1
73837	1995	6.3
73837	2000	2.6
73880	1978	14
73919E	1978	46.9
73919E	1982	68.8
73919E	1987	99.8
73919E	1991	98
73919E	1995	30.9
73919E	1999	48.1
73920W	1984	0.1
73920W	1989	6.7
73920W	1993	19.4
73920W	2000	24.1
73922	1980	0
73922	1988	1.7
73922	1992	2.5
73922	1999	24.1
73949	1978	17.8
73949	1979	58.7
73949	1980	48
73949	1981	76.9
73949	1982	31.3
73949	1983	87.8
73949	1987	88
73949	1991	60
73949	1995	65
73949	1999	91
7398	1985	0
7398	1989	0
7398	1993	0
7398	1997	0.1
740	1978	0
740	1983	0

FileNumber	InspectonDate	%>300mV
77466	1990	35.4
77493	1982	0
77493	1990	0
77493	1996	0
77501	1983	0
77501	1989	1
77501	1996	0
77503	1982	0
77504	1982	0.3
77504	1987	1
77504	1991	6.7
77504	1999	5.6
77507	1983	0
77521	1984	7.8
77521	1989	22.2
77521	1995	13.6
77521	2000	45.5
77528W	1984	1
77528W	1989	19.8
77530	1983	12
77534	1984	22
77534	1991	8
77534	1998	13.1
77556E	1984	3
77556E	1989	4.3
77556E	1998	4.2
77556W	1984	6.7
77556W	1989	7.5
77556W	1998	15.8
77753W	1984	3.9
77753W	1989	16.2
77753W	1993	55
77753W	1999	25.2
77782	1984	0.6
77782	1987	0.3
77782	1991	0.4
77782	1995	0.2
77782	1999	1.8
77816	1984	0
77816	1989	0
77816	1993	0.1
77816	1997	0
77817	1984	0
77817	1989	0
77817	1993	0
77817	1997	0
77846	1985	0
77846	1989	0
77846	1996	0.1
77846	1997	7
77859W	1984	5

FileNumber	InspectonDate	%>300mV
740	1992	3
740	1996	2.7
74031N	2000	0.5
74116	1978	3
74116	1984	4
74116	1992	7
74116	1996	7.1
74137	1978	12.4
74137	1983	30.8
74137	1984	17.1
74137	1989	9.2
74137	1993	7.9
74137	1996	29.8
74137	1997	24
74137	1978	12.4
74137	1983	30.8
74137	1984	17.1
74137	1989	9.2
74137	1993	7.9
74137	1996	29.8
74137	1997	24
74195	1980	9
74195	1985	21
74195	1990	40
74195	1996	45
74217	1977	35
74217	1979	59
74217	1980	42
74217	1982	90
74217	1983	95
74217	1988	26
74217	1993	19
74217	1997	14.3
74217	1977	35
74217	1979	59
74217	1980	42
74217	1982	90
74217	1983	95
74217	1988	26
74217	1993	19
74217	1997	14.3
74222	1979	1.5
74222	1983	1.9
74222	1988	2.5
74222	1997	1.4
74227	1980	1
74227	1985	8
74227	1990	22
74227	1994	9
74227	1996	3.8
74227	2000	16.3

FileNumber	InspectonDate	%>300mV
77859W	1989	4
77859W	1995	12
77859W	1997	7.1
77872N	1984	23.9
77872N	1989	32.4
77872N	1994	5.5
77872N	1998	1.9
77878	1984	0.1
77878	1989	0.3
77878	1993	0.3
77878	1997	0.1
77919	1984	0.7
77919	2000	0.3
7802	1978	4.8
7802	1980	25.3
7802	1982	42.5
7802	1983	32
7802	1987	33.7
7802	1991	22.2
7802	1995	13.6
7802	1999	8.5
78031	1984	0.9
78031	1989	0.1
78031	1994	17.3
78031	1998	57.8
78031	1999	49
78104	1984	0.9
78104	1989	4.2
78104	1993	14.7
78104	1997	6.9
78123	1985	1.5
78123	1989	0.4
78123	1993	0.3
78123	1998	0.3
7815	1981	0
7815	1989	0.2
7815	1993	0
7815	1997	0
7815	1985	0
7815	1992	0
7815	1996	0.7
78194	1985	0
78194	1990	0
78194	1994	0
78194	1998	0
78197	1985	6.5
78197	1990	2
78197	1994	8.3
78199	1984	13.9
78199	1993	4.7
78199	1998	2.3

FileNumber	InspectonDate	%>300mV
74228	1980	66
74228	1984	63
74228	1986	62
74228	1988	7
74228	1992	47
74228	1996	41.1
74228	2000	39.2
74229	1981	0.1
74229	1987	53.6
74229	1991	8.1
74229	1994	22.8
74229	2000	14.4
74232	1981	0
74232	1988	14.2
74232	1994	5.6
74232	1995	34.2
74232	1996	31
74232	1997	50
74232	1998	24.3
74233	1979	24
74233	1982	24
74233	1983	67
74233	1984	95
74233	1989	69
74233	1993	71
74233	1997	39.8
74236	1981	0.1
74236	1988	2.1
74236	1994	1.6
74236	1999	8.5
74282W	1979	6.2
74282W	1983	73.6
74282W	1986	62.8
74282W	1990	68.2
74352E	1981	1
74352E	2000	27.7
74352W	1981	25
74352W	1985	74.9
74352W	1989	55.2
74352W	1993	19.4
74352W	1997	25.4
74353E	1977	0
74353E	1981	36
74353E	1984	43
74353E	1986	27
74353E	1988	10
74353E	1992	4
74353E	1995	5
74353E	1996	3
74353E	1997	2.4
74353E	1998	3.9

FileNumber	InspectonDate	%>300mV
78215	1984	12.5
78215	1993	5
78215	1998	2.7
78260	1982	0.2
7836	1980	2.8
7836	1986	3.2
7836	1990	63.8
7836	1995	25.8
7836	1999	43.8
786	1985	2.7
786	1989	4.3
786	1989	4.1
786	1993	3.2
786	1997	2.9
78709	2000	36.7
7871	1980	0.6
7871	1986	0.1
7871	1990	0.5
7871	1994	0.2
7871	1998	1.8
78730	1985	0.1
78730	1990	0.2
78765	1985	0
78765	1989	0
78765	1993	2
78765	1996	1.6
78808	1985	0.2
78808	1989	0.7
78808	1993	1.8
78808	1997	0.5
78896	1977	0
78896	1980	0.6
78896	1988	1.7
78896	1992	5.3
78896	1997	0.9
79375	1985	9.6
79375	1992	3.8
79375	1998	1.3
7938	1985	2
7938	1989	2
7938	1995	4.5
7938	1999	5.6
79432	1985	0
79432	1989	1
79432	1993	2
79432	1996	3
79443	1985	4
79443	1989	6
79443	1993	8
79443	1997	0.5
79766	2000	8.9

FileNumber	InspectonDate	%>300mV
74353W	1977	3
74353W	1981	21
74353W	1984	52
74353W	1986	84
74353W	1988	32
74353W	1992	55
74353W	1995	18
74353W	1996	21
74353W	1997	10.6
74353W	1998	5
74354E	1981	0.3
74354E	1983	2
74354E	1988	3.7
74354E	1992	0.4
74354E	1997	7.7
74354W	1981	25
74354W	1983	47
74354W	1986	64
74354W	1988	37
74354W	1992	6
74354W	1996	11.2
74355E	1977	0.3
74355E	1979	1.8
74355E	1980	2.7
74355E	1981	4.5
74355E	1982	8.2
74355E	1983	7.6
74355E	1987	2.4
74355E	1991	9.4
74355E	1992	7.7
74355E	1998	10.2
74355W	1977	72.5
74355W	1978	79.5
74355W	1979	60.6
74355W	1980	60.7
74355W	1981	33.7
74355W	1982	31.4
74355W	1983	41
74355W	1987	28.8
74355W	1991	4.9
74355W	1992	2.4
74355W	1996	1.7
74355W	1997	1.3
74358	1980	0.6
74358	1987	0.1
74358	1991	0
74358	1995	0
74358	1999	5
74381	1978	89.8
74381	1980	94.7
74381	1982	68.1

FileNumber	InspectonDate	%>300mV
7978	1980	76
7978	1982	61
7978	1988	86
7978	1996	97.2
8028	1979	8
8028	1983	11
8028	1988	6
8028	1992	3
8028	1996	2.6
8028	1996	2.6
8036	1979	1
8036	1982	11
8036	1983	7
8036	1987	2
8036	1992	21
8036	1996	3.3
8077	1984	0.1
8077	1989	1.7
8077	1993	0.4
8077	1997	2.6
820	1980	2.6
820	1986	3.7
820	1990	4.5
8303	1980	5.3
8303	1986	3.5
8303	1990	36.3
8303	1994	51.7
8303	1998	23.3
8435E	1978	9.3
8435E	1983	24.4
8435E	1986	67.7
8435E	1987	93
8435E	1988	34.3
8435E	1992	22
8435E	1999	15.3
8487	1985	1
8487	1992	3
8487	1996	0.6
8495	1979	25.1
8495	1982	27.9
8495	1989	90.5
8495	1993	33.7
8495	1997	40.7
851	1982	4.3
8641	1981	1.3
8641	1989	2.4
8641	1993	2
8641	1997	1.8
8707	1998	0.3
8719	1978	25.9
8719	1982	78.5

FileNumber	InspectonDate	%>300mV
74381	1983	69.5
74381	1987	88.3
74381	1991	96
74381	1994	36
74381	1998	59.9
74426	1978	3
74426	1983	2
74426	1987	2
74426	1991	11
74426	1993	6
74426	1994	1
74426	1995	2
74426	1996	2.1
74426	1997	2.2
74426	1998	2.6
74440	1978	19.8
74440	1979	499.4
74440	1980	31.8
74440	1981	45.2
74440	1982	36.6
74440	1983	30.4
74440	1987	86.1
74440	1991	68
74440	1995	61
74440	1998	92.1
74447	1990	6
74447	1997	3.9
74452	1978	46.8
74452	1979	54.6
74452	1979	21
74452	1980	99.2
74452	1981	82.4
74452	1982	51.8
74452	1983	92.6
74452	1988	95.5
74455	1979	5.6
74455	1983	8.9
74455	1989	22
74455	1995	3.2
74455	2000	2.6
74458S	1977	26.3
74458S	1978	45.5
74458S	1978	99
74458S	1979	11.9
74458S	1980	11.6
74458S	1981	12.5
74458S	1983	5.6
74458S	1987	1.9
74458S	1991	3.7
74458S	1996	1.4
74540	1980	0

FileNumber	InspectonDate	%>300mV
8719	1986	62.9
8719	1988	79.9
8719	1993	23.8
8719	1997	30
875	1990	0
875	1997	0.5
876	1977	0
876	1986	3.7
8792	1978	74.8
8792	1983	0
8792	1987	0
8792	1991	0.1
8792	1995	0
8792	1999	0.1
8800	1980	0.1
8800	1986	1
8800	1991	0.5
8800	1995	1.2
8800	2000	1.5
887	1978	2
887	1983	8
887	1985	9
887	1988	5
887	1992	8
887	1996	7.8
8987	1979	0
8987	1986	0
8987	1992	0
8987	1996	0
903	1978	10.4
903	1984	24.3
903	1986	13.3
903	1990	8.4
903	1995	4.3
903	2000	2.6
904	1978	0.9
904	1983	3.8
904	1986	12.3
904	1990	6.5
904	1995	4.2
904	2000	2.6
9099	1979	0.1
9099	1986	0
9099	1990	6
9099	1994	28.4
9099	1999	9.2
9204	1980	0
9219W	1985	7
9219W	1989	8
9219W	1997	2.9
9230	1981	0

FileNumber	InspectonDate	%>300mV
74540	1986	0
74540	1992	0.3
74596	1981	67.3
74596	1982	89.1
74596	1986	96.9
74596	1991	99.6
74596	1995	67.7
74596	1999	90
74600W	1986	64.2
7461	1979	4.1
7461	1983	21.5
7461	1987	31.7
7461	1992	25
7461	1996	46.7
7461	1997	20.4
74653	1978	4
74653	1979	4.3
74653	1983	10.6
74653	1987	0.4
74653	1991	0.2
74653	1995	0.5
74653	2000	0.1
74678	1977	49.8
74678	1978	97
74678	1978	1
74678	1979	16
74678	1980	27.4
74678	1981	15.4
74678	1983	7.1
74678	1987	0.9
74678	1991	5.2
74678	1995	1.3
74679	1977	23.4
74679	1978	3.3
74679	1978	1
74679	1979	4.4
74679	1980	36.5
74679	1981	48.3
74679	1982	14.1
74679	1987	17.1
74679	1991	8
74679	1995	17.7
74679	1999	22.4
74710	1981	0.3
74710	1987	11.4
74710	1991	13.4
74710	1995	11.3
74710	1999	5.1
7487	1984	1
7487	1988	1
7487	1992	0

FileNumber	InspectonDate	%>300mV
9230	1992	0
9230	1997	0
9259	1984	0
9259	1989	42
9259	1993	38
9259	1997	0
9487	1982	0
9487	1989	0
9487	1996	0
9487	2000	0.5
9551	1979	60.1
9551	1980	35.5
9551	1983	66.9
9551	1986	11.9
9551	1988	30.3
9551	1993	26.3
9551	1997	63.8
9590	1985	0
9590	1992	0
9590	1996	0
9596	1982	2.1
9755	1980	6.4
9755	1986	45.9
9755	1990	21.2
9755	1995	73.4
9755	1999	45.5
977	1984	13.1
977	1989	1.5
977	1993	11.1
977	2000	3.2
983	1980	6.5
983	1986	5.7
983	1990	17.7
9899	1979	29.5
9899	1983	39.2
9899	1986	80.5
9899	1990	17
9899	1994	14
9899	1998	18
9903	1991	98
9903	1996	79
9903	1998	75.2
9910	1978	36.4
9910	1982	70.5
9910	1983	83.3
9910	1987	87.1
9910	1991	33
9910	1995	27
9910	1999	24.3
9943	1981	0.6
9943	1989	0.9

FileNumber	InspectonDate	%>300mV
7487	1996	0.7
7492	1981	2.3
7492	1988	0
74954	1978	85.4
74954	1982	51.9
74954	1984	71
74954	1987	22.9

FileNumber	InspectonDate	%>300mV
9943	1993	0.9
9943	1997	1.4
999	1980	0
999	1986	0
999	1992	0
999	1996	0

DECK INFORMATION DATA

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
00493W	400	25	20	300	450	50
00756N	125	0	0	0	0	0
01059W	100	10	10	180	250	52
06985E	140	15	20	190	210	40
06985W	175	10	10	300	300	0
08435E	165	10	15	550	215	25
08435W	140	15	20	180	210	40
09219W	140	15	20	190	170	40
09467E	100	10	10	200	250	40
09467W	100	10	10	200	250	40
09899W	150	10	15	450	165	40
1031	125	15	15	310	300	0
1049	100	13	13	180	250	52
1062	175	10	15	450	175	50
1085	150	30	20	115	175	40
1122	190	0	15	0	175	40
1126	165	15	20	180	140	65
1137	175	10	15	450	190	40
1140	125	0	0	0	0	85
1145	125	0	0	0	0	0
1153	175	15	15	450	165	50
1158	190	10	15	450	650	0
1227	165	10	15	450	150	0
1241	125	0	0	0	0	0
1242	165	15	20	190	210	65
1245	200	10	15	500	165	65
1303	425	25	20	175	250	50
13096	125	0	0	0	0	0
13117	175	10	15	500	165	65
13149	190	10	15	525	215	50
13166	140	20	20	275	200	55
13181	150	10	20	425	215	50
13371	225	15	20	300	150	75
13445	100	10	10	150	150	40
13473	225	15	15	300	140	50
13486	125	0	0	0	0	0
135	125	0	0	0	0	0
13545	200	15	15	300	140	50
13587	150	10	10	450	125	40
13625	125	0	0	0	0	0
13692	220	15	25	200	175	50
13700	240	15	20	360	300	50
13742	265	10	25	450	200	40
13824	190	15	20	350	140	75
13832	190	10	15	225	190	50
13852	190	10	15	450	125	65
1402	175	10	15	450	225	50
1409	125	10	15	450	250	50
1420	225	15	15	300	300	50

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
1426	150	10	20	450	250	25
1427	150	10	15	450	225	25
1432	155	10	15	450	150	40
149	125	0	0	0	0	0
1491	160	15	20	200	200	75
1493	175	10	15	525	200	50
1569	100	10	10	190	250	40
1606	165	10	15	450	140	40
1614	165	15	20	190	210	65
1632	165	10	20	150	150	40
1642	100	13	13	180	250	52
1658	225	15	15	300	300	50
1669	125	0	0	0	0	0
1694	133	0	10	0	190	75
1741	175	10	15	450	175	50
1797	190	10	20	450	165	40
181	235	15	20	400	180	75
1810	175	10	15	600	175	25
1886	125	10	10	120	150	50
189	190	20	10	165	450	40
1980	150	10	15	450	225	50
2008	175	10	15	450	150	50
2010	190	10	15	450	150	40
2027	100	10	10	190	500	40
2029	102	13	13	254	190	51
2102	165	10	15	450	150	25
2108	235	15	20	400	180	75
211	165	15	20	200	180	65
2119	100	10	10	180	250	52
2143	125	0	0	0	0	0
2144	225	20	15	300	300	50
2155	150	0	0	0	0	0
223	150	30	15	150	125	40
2233	190	0	15	0	165	40
2235	215	13	15	400	230	50
2240	140	15	20	180	210	40
2291	100	10	10	180	250	52
2301	125	0	0	0	0	0
2302	215	10	20	440	175	75
233	150	10	20	450	225	25
2359	150	10	15	450	250	25
2401	175	10	15	450	175	50
2430	165	10	15	450	175	40
2487	175	10	15	225	150	50
261	150	0	0	0	0	0
272	125	0	0	0	0	0
274	125	0	0	0	0	0
277	125	0	0	0	0	0
278	175	15	15	450	200	0
286	165	10	15	450	130	25
288	210	20	20	300	200	50

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
290	150	20	20	400	200	75
310	180	15	20	275	200	75
313	200	10	10	400	350	50
315	150	10	15	450	215	40
334	225	20	20	250	100	75
340	175	10	15	450	175	50
358	215	10	15	450	250	65
395	150	10	15	450	250	75
457	175	10	20	450	225	50
477	215	15	20	350	150	50
521	300	15	25	450	0	50
563	100	10	10	150	250	40
589	165	10	15	525	125	65
605	100	10	10	180	250	52
611	140	10	15	450	165	40
6565	170	10	15	450	225	25
6581	137	20	20	200	200	50
6615	150	0	0	0	0	0
6639	140	15	20	210	290	40
6733	175	10	10	740	300	50
6809	125	0	0	0	0	0
698	165	10	15	450	150	40
6990	160	15	10	320	200	75
70247	175	15	15	300	150	0
70277	125	0	0	0	0	0
70318	230	15	20	300	125	75
70509	170	10	15	300	150	40
70566	150	10	15	350	225	0
70580	150	10	15	450	165	40
70594	175	10	15	0	140	40
7064	165	15	20	200	180	65
7086	150	0	0	0	0	0
70935	175	10	15	450	140	40
710	175	10	15	450	200	50
71004	180	20	20	230	150	65
7101	125	0	0	0	0	0
71019	190	10	15	400	175	65
71048	100	10	10	180	250	52
71054	190	10	15	375	200	50
71069	165	15	20	180	210	65
7109	165	10	15	325	175	40
71106	200	10	15	375	250	65
71145	175	10	15	350	215	55
71265	100	10	0	0	190	80
71291	175	10	20	450	200	40
71313	150	10	15	450	175	25
71340E	200	20	20	350	100	75
71340W	200	20	20	350	100	75
71344E	150	25	15	300	300	75
71352	210	15	15	300	120	65
71429	127	15	10	150	250	75

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
7146	150	25	15	180	300	75
7150	180	13	15	220	180	25
71504	175	10	15	450	200	50
71613	100	13	13	180	250	50
7168	175	10	15	450	200	50
71697	165	15	20	180	170	65
71734	100	10	10	190	250	40
71746	100	13	13	190	500	40
71821	170	25	20	300	150	50
71961	150	0	0	0	0	0
72007E	140	15	20	210	290	40
72007W	225	10	20	150	150	75
72094	150	10	15	450	150	25
72103	230	15	20	260	115	50
72168	125	0	0	0	0	0
72279	125	0	0	0	0	0
72345	125	0	0	0	0	0
72467	165	10	15	440	130	40
72533N	150	15	20	150	225	90
72533S	175	10	15	450	190	25
72535N	200	15	15	300	300	50
72545	150	15	15	0	145	25
72551N	150	10	15	450	190	25
72551S	150	10	15	450	190	25
7256	175	30	20	150	190	65
72631	125	0	0	0	0	0
72640	125	0	0	0	0	0
72705	165	10	20	450	150	40
72819	125	0	0	0	0	0
73077	225	15	20	285	140	75
73136	240	15	20	300	130	75
73184	150	0	0	0	0	0
73274	150	0	0	0	0	0
73389	140	15	20	180	170	40
73407	150	10	15	0	150	25
73410	175	10	15	400	175	50
73420	125	0	0	0	0	0
73425	175	10	15	450	175	50
73429	225	10	20	450	175	65
73442	125	25	15	315	300	50
73485	100	0	0	0	0	0
73527	375	25	10	150	350	45
73636	390	0	20	0	600	40
73637	140	15	20	190	210	40
73640	335	15	15	0	0	45
73694N	210	15	20	290	115	50
73694S	210	15	20	300	115	50
7373	125	0	0	0	0	0
73757	150	0	0	0	0	0
7377	125	0	0	0	0	0
73803E	215	15	20	200	175	75

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
73803W	215	15	20	200	175	75
73809E	210	15	20	260	125	50
73810W	125	0	0	0	0	0
73817	100	10	10	180	250	52
73819	150	15	15	300	300	75
73823E	100	13	13	180	250	52
73825W	150	25	15	300	300	75
73836	150	0	0	0	0	0
73877	225	15	15	300	300	50
73919E	200	10	15	525	165	65
73922	150	10	15	450	175	25
73924S	125	25	15	300	300	50
73949	175	15	20	400	120	25
73973	150	20	15	370	300	65
7398	200	15	20	150	150	50
740	175	30	15	225	150	50
7401	210	15	20	150	150	75
74031N	200	15	20	350	150	50
74031S	200	15	20	350	200	50
74116	150	0	15	0	450	25
74137	375	10	10	300	300	50
74195	190	10	15	600	300	30
74222	150	10	15	500	165	40
74227	165	10	15	0	100	40
74228	190	10	20	450	150	40
74229	215	10	20	300	150	50
74231	225	15	20	300	150	75
74232	265	10	25	225	200	40
74233	265	10	25	225	200	40
74236	190	30	15	115	125	40
7425	140	15	20	190	170	40
74353E	190	10	15	575	175	0
74353W	190	10	15	575	175	0
74354E	125	0	0	0	0	0
74355W	175	0	0	0	0	0
74358	175	10	15	450	150	50
74440	150	10	15	375	215	25
74447	150	15	20	200	200	50
74452	150	10	15	450	215	25
74455	165	10	15	375	175	40
74458S	175	10	15	750	190	25
74540	215	10	10	400	240	40
74546	165	15	20	270	170	65
74596	165	10	15	450	125	40
74599E	100	10	10	130	250	40
74599W	100	10	10	130	250	40
746	130	0	20	0	210	40
74600E	100	0	0	0	0	0
74600W	150	15	10	60	190	75
74602E	100	0	10	0	190	75
7461	165	10	15	325	175	25

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
74653	175	10	15	450	165	40
74678	190	10	15	450	150	50
74679	175	10	15	500	250	50
74710	125	0	0	0	0	0
74739	100	10	10	210	250	40
74832	100	13	13	180	250	52
7492	125	0	0	0	0	0
74953	125	15	25	300	300	50
74954	175	10	15	450	175	50
74969	175	10	15	450	175	50
75016	175	10	15	450	200	50
75021	150	10	15	450	190	25
75051N	150	10	10	450	120	25
75051S	150	10	10	450	150	25
75054	125	0	0	0	0	0
75055N	200	10	15	450	190	25
75055S	200	10	15	450	190	25
75058N	150	13	15	380	150	25
75058S	150	10	15	275	150	25
75059	175	10	15	450	150	50
75066	220	10	20	215	110	50
75070	165	10	15	200	190	25
75075	125	25	15	315	300	50
75111	150	10	15	460	215	25
75112	150	10	15	450	190	25
7513	175	10	15	350	225	50
75186	150	10	15	450	215	25
75194	188	20	20	200	200	50
75197	150	10	15	450	175	50
75217S	265	10	25	450	200	0
75315	275	20	20	500	300	25
75331S	110	20	20	300	300	25
75332N	150	13	15	460	380	50
75332S	150	13	15	460	380	50
75334	137	15	20	200	200	65
75335N	140	15	15	175	200	25
75335S	140	15	15	175	200	25
75336	150	10	15	450	150	0
75337N	150	10	15	450	190	25
75337S	150	15	15	450	190	25
75339N	150	10	15	450	200	25
75339S	150	10	15	450	200	25
75340S	150	10	15	450	240	0
75341	150	10	15	450	225	25
75371	225	15	15	300	300	50
75383	150	10	15	200	150	0
75420W	175	15	15	450	140	40
75491	150	0	0	0	0	0
75498	125	0	0	0	0	0
75500	190	10	20	300	0	0
75522	180	13	20	460	190	40

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
75529	165	15	15	515	150	0
7553	165	15	20	350	178	0
75535N	125	20	10	0	125	40
75535S	125	20	10	0	125	40
75538	125	0	0	0	0	0
75543E	125	0	0	0	0	0
75543W	125	0	0	0	0	0
75555	175	15	15	450	125	40
75623N	102	10	10	203	254	38
75623S	102	10	10	203	254	38
75644	165	10	15	450	125	40
75651N	175	10	15	450	125	40
75651S	175	10	15	450	125	40
75661N	100	10	10	230	510	40
75661S	100	10	10	230	510	40
75667	100	20	10	0	450	40
75678	190	10	20	450	165	40
75701	175	10	20	450	400	40
75722	100	10	40	200	500	40
75723	190	10	20	450	175	65
75724	125	0	0	0	0	0
75725	100	0	10	0	175	40
75726	175	10	15	450	140	40
75744	175	10	15	300	125	40
75752	125	25	15	315	300	50
75754	165	10	15	500	125	40
75760	125	0	0	0	0	0
75774	125	0	15	0	254	38
75812N	100	10	10	200	250	40
75812S	100	10	10	200	250	40
75816	125	0	0	0	0	0
75817	100	10	10	150	150	40
75855	125	15	15	402	375	50
75857	100	10	10	180	250	52
75876	125	0	0	0	0	0
75919S	190	10	0	450	0	40
75931	190	0	20	0	450	40
75932	190	0	0	0	0	0
75945	125	0	0	0	0	0
75946	175	10	15	450	125	40
75957W	140	15	20	210	220	40
75980	100	10	10	180	250	52
76005	125	25	15	315	300	50
76007	160	15	20	300	200	75
76034	150	10	15	450	150	65
76054S	140	15	20	180	170	40
76057	175	10	20	450	190	40
76060	150	0	0	0	0	0
76061	205	15	20	400	200	75
76081S	215	0	15	0	125	65
76092	165	10	15	450	140	40

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
76097E	125	0	0	0	0	0
76117	200	10	20	450	165	65
76118	175	10	15	450	120	65
76158	125	10	15	450	140	50
76159	125	0	0	0	0	0
76177	100	0	10	0	190	65
76181E	175	10	15	450	125	40
76181W	175	10	15	450	125	40
76186	125	0	0	0	0	0
76223	125	0	0	0	0	0
76301	152	13	15	152	254	50
76339E	125	0	0	0	0	0
76339W	125	0	0	0	0	0
76349	100	10	10	180	250	52
76364	165	15	15	200	150	40
76378	190	10	15	0	125	40
76381	165	10	15	450	125	40
76382N	175	10	20	450	375	40
76406	750	20	15	300	450	0
76410	125	25	15	180	300	50
76458	100	10	10	180	250	52
76511	165	15	20	190	210	65
76558	125	0	0	0	0	0
76565	140	15	20	190	210	40
76566	125	0	0	0	0	0
766	175	10	15	425	175	0
76609	190	10	20	0	300	40
76615	125	0	0	0	0	0
76639	125	0	0	0	0	0
76648	165	10	20	450	300	0
76649W	175	10	15	450	265	50
76650N	125	0	0	0	0	0
76650S	125	0	0	0	0	0
76652	150	10	15	450	250	50
76658	125	0	0	0	0	0
76659	125	0	0	0	0	0
76660	125	0	0	0	0	0
76719	125	0	0	0	0	0
76720	125	20	0	150	0	0
76726	100	10	10	180	250	52
76848	165	13	20	460	150	40
76849	260	15	10	300	300	0
76850	125	0	0	0	0	0
76856	127	0	15	0	254	38
76927	127	13	15	200	254	38
76950	165	15	20	190	220	65
76986	190	10	20	0	325	65
77054E	125	0	0	0	0	0
77054W	140	15	20	220	170	40
77073	127	13	15	200	254	38
77083	125	15	15	402	375	50

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
77088	150	0	0	0	0	0
77091E	125	0	0	0	0	0
77091W	125	0	0	0	0	0
77091WC	125	0	0	0	0	0
77126	125	0	0	0	0	0
77175	125	0	0	0	0	0
77177	125	0	0	0	0	0
77289	125	10	10	220	300	50
77315	127	13	13	281	203	45
77349	150	0	0	0	0	0
77419	225	15	20	150	150	75
77426	152	13	15	203	254	38
77460	150	10	10	210	300	40
77466	150	0	0	0	0	0
77493	125	0	0	0	0	0
77498	140	15	20	125	170	40
77502	100	0	0	0	0	0
77504	100	0	0	0	0	0
77505	100	0	0	0	0	0
77528E	140	15	20	150	140	40
77530	127	0	0	0	0	0
77541	250	20	25	330	200	50
77545	140	15	20	210	170	40
77546	225	15	20	300	130	75
77548	125	10	10	140	150	50
77563E	125	0	0	0	0	0
77563W	125	0	0	0	0	0
7773	215	10	15	600	300	50
77750W	230	15	20	300	150	65
77753E	250	15	20	300	125	50
77782	125	0	0	0	0	0
77816	125	0	0	0	0	0
77846	150	0	0	0	0	0
77847	125	0	0	0	0	0
77859W	125	0	0	0	0	0
77872N	254	15	15	305	152	50
77873	100	13	13	180	250	52
77878	152	13	15	203	254	38
77919	152	0	15	0	254	50
77994S	200	10	15	445	11	50
7802	175	10	10	400	300	0
78020	225	15	20	200	175	50
78031	255	20	20	130	260	75
78055	225	15	20	400	150	75
7806	235	15	20	400	180	75
78101	100	10	10	180	250	52
78123	180	0	0	0	0	0
7815	200	10	15	450	140	65
78152N	100	15	15	425	150	0
78189	165	15	20	190	170	65
78191	125	10	10	140	150	50

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
78199	125	0	0	0	0	0
78215	125	0	0	0	0	0
78227	165	15	20	190	140	65
7824	127	25	15	150	300	60
78313	127	10	15	240	150	51
78314	102	10	20	240	150	51
7836	175	10	15	425	190	50
78360	150	15	20	200	200	50
78373	140	10	10	200	250	50
78387	140	15	10	200	250	50
78412	350	10	15	300	300	0
78413	350	10	15	300	300	0
78419	100	10	10	180	250	52
78420	100	10	10	180	250	52
78422	100	10	10	180	250	52
78423	100	10	10	180	250	52
78424	100	10	10	180	250	52
78425	100	10	10	180	250	52
78426	100	10	10	180	250	52
78527	140	15	20	190	210	40
78585	215	15	20	420	150	75
78595	150	0	0	0	0	0
786	150	0	0	0	0	0
78692	100	10	10	180	250	52
7870	150	0	0	0	0	0
78709	127	15	10	180	250	75
7871	175	10	15	450	325	50
78765	150	0	0	0	0	0
78796	100	10	10	180	250	52
78798	100	10	10	180	250	52
78799	100	10	10	180	250	52
78808	125	0	0	0	0	0
78832	150	0	0	0	0	0
78898	165	15	20	190	170	65
78996	100	10	10	180	250	52
7922	165	15	20	200	210	65
79230	200	15	20	350	150	75
79262	210	20	20	300	200	50
79324	150	0	0	0	0	0
79325	235	15	20	350	150	75
79351	100	10	10	180	250	52
79375	150	0	0	0	0	0
7938	150	0	0	0	0	0
79432	150	0	0	0	0	0
79436	225	15	20	350	150	75
79441N	200	15	20	300	150	75
79441S	200	15	20	300	150	75
79443	150	0	0	0	0	0
79464	200	15	20	340	150	75
79472	255	15	20	275	150	75
79473	225	15	20	300	115	75

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
79476	100	10	10	180	250	52
79553	165	15	20	200	210	65
79565	100	10	10	180	250	52
79566	100	10	10	180	250	52
79567	100	10	10	180	250	52
79568	165	15	20	200	180	65
79569	100	10	10	180	250	52
79570	100	10	10	180	250	52
79573	100	10	10	180	250	52
79575	100	10	10	180	250	52
79576	100	10	10	180	250	52
79580	100	10	10	180	250	52
79581	100	10	10	180	250	52
79582	100	10	10	180	250	52
79710	200	15	20	300	140	50
79742	100	10	10	180	250	52
79760	205	15	20	300	120	50
79761	225	15	20	375	150	75
7978	190	10	15	575	215	65
79781	100	10	10	180	250	52
79785	100	10	10	180	250	52
79786	100	10	10	180	250	52
79787	100	10	10	180	250	52
79788	100	10	10	180	250	52
80121	127	0	0	0	0	0
80207	100	10	10	180	250	52
80208	100	10	10	180	250	52
80209	100	10	10	180	250	52
80210	100	10	10	180	250	52
80211	100	10	10	180	250	52
80212	100	10	10	180	250	52
80219	100	10	10	180	250	52
80220	100	10	10	180	250	52
80221	100	10	10	180	250	52
80223	100	10	10	180	250	52
80224	100	10	10	180	250	52
80225	100	10	10	180	250	52
80226	100	10	10	180	250	52
80227	100	10	10	180	250	52
80228	100	10	10	180	250	52
80232	100	10	10	180	250	52
80234	100	10	10	180	250	52
80269	100	10	10	180	250	52
80270	100	10	10	180	250	52
80271	100	10	10	180	250	52
80272	100	10	10	180	250	52
80273	100	10	10	180	250	52
80275	100	10	10	180	250	52
80277	100	10	10	180	250	52
80278	100	10	10	180	250	52
8028	150	10	15	300	175	25

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
80288	100	10	10	180	250	52
80289	100	10	10	180	250	52
80290	100	10	10	180	250	52
80291	100	10	10	180	250	52
80292	100	10	10	180	250	52
80296	100	10	10	180	250	52
80299	100	10	10	180	250	52
80301	100	10	10	180	250	52
80325	100	10	10	180	250	52
80326	100	10	10	180	250	52
80327	100	10	10	180	250	52
80328	100	10	10	180	250	52
80329	100	10	10	180	250	52
80334	100	10	10	180	250	52
80335	100	10	10	180	250	52
80336	100	10	10	180	250	52
80337	100	10	10	180	250	52
80338	100	10	10	180	250	52
80339	100	10	10	180	250	52
80340	100	10	10	180	250	52
80341	100	10	10	180	250	52
80342	100	10	10	180	250	52
80352	115	10	10	190	250	52
80354	115	10	10	190	250	52
80355	115	10	10	190	250	52
80356	115	10	10	190	250	52
80357	115	10	10	190	250	52
8036	175	10	15	450	175	50
80403	100	10	10	180	250	52
80418	100	10	10	180	250	52
80445	100	10	10	180	250	52
80454	100	10	10	180	250	52
80643	190	15	20	300	155	50
80644W	140	15	20	190	210	40
80657	250	0	15	0	150	0
8077	125	0	0	0	0	0
80838	100	10	10	180	250	52
80845	165	15	20	140	170	65
80846	215	15	20	450	150	50
80878	100	10	10	180	250	52
80915	100	10	10	180	250	52
80919	100	10	10	180	250	52
80920	100	10	10	180	250	52
80946	190	15	20	290	150	50
80947	100	10	10	180	250	52
80961	100	10	10	180	250	52
81034	140	15	20	180	170	40
81102	245	15	25	200	180	75
81103	250	15	20	250	175	75
81129	240	15	20	250	200	50
81131	200	15	20	300	150	50

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
81237	150	15	20	200	200	0
81241	210	15	20	200	300	50
81284	200	15	15	200	350	75
81287	225	20	15	300	300	75
8132	215	20	20	300	125	75
81351	140	15	20	240	250	50
81533	150	25	15	300	300	75
81584	150	25	15	160	250	50
81798	150	25	15	300	300	75
8196	200	15	20	190	130	50
820	175	10	15	450	225	50
8261	225	15	15	250	200	75
8303	150	10	15	300	175	25
8340	150	15	15	200	300	75
835	125	0	0	0	0	0
8459	225	20	20	300	175	75
8487	150	0	0	0	0	0
8495	175	10	15	450	200	50
8641	125	0	0	0	0	0
8707	200	15	20	200	175	75
8708	150	0	0	0	0	0
8719	190	10	15	450	300	25
873	125	25	15	180	300	50
875	140	15	20	190	210	40
8779	190	20	20	400	175	50
8800	150	10	15	450	175	25
8822	100	10	10	180	250	52
8839	165	15	20	190	210	40
887	175	10	15	450	200	25
8987	150	10	20	240	150	40
903	190	10	15	450	300	25
904	190	10	15	450	300	0
9099	140	10	15	150	200	50
9309	200	20	20	300	175	50
9343	140	15	20	210	290	40
9345	140	15	20	225	210	40
9346	150	15	15	220	250	50
945	165	15	20	190	220	65
9487	165	10	15	450	140	40
9551	150	10	15	600	215	0
9590	225	10	20	300	150	75
962	175	10	15	450	150	50
9755	150	10	10	190	250	40
977	215	10	20	450	125	50
983	175	10	15	450	175	50
9847	125	10	15	0	215	65
9850	165	15	20	180	170	65
988	100	10	10	180	250	52
9903	150	15	15	450	225	0
9910	190	10	15	450	190	50
992	175	10	15	500	125	65

FileNumber	Thickness	LBarSize	TBarSize	LBarSpacing	TBarSpacing	Cover
9943	190	10	15	450	150	65
999	165	10	15	450	150	25

VALUE ADDED DATA

FileNumber	Sim/Cont	Diaphragms	DiaSpacing	GirdSpacing	GirdDepth	DeckThickness
1062	S	Y	8585.2	2438.4	1524	175
1085	C	Y	8534.4	2336.8	1828.8	150
1122	C	N	0	2692.4	1397	190
1137	S	Y	6477	2184.4	1117.6	175
1145	S	N	0	1631.95	1041.4	125
1153	S	Y	10668	1828.8	1524	175
1158	S	Y	6146.8	1828.8	923	190
1245	C	Y	6705.6	2095.5	921	200
13117	C	Y	5486.4	1981.2	927	175
13166	S	N	0	1219.2	762	140
13181	S	Y	3073.4	2743.2	1117.6	150
13370	C	N	0	2844.8	2209.8	178
135	S	N	0	1638.3	1041.4	125
13625	S	N	0	1619	1041	125
13832	S	Y	8229.6	2235.2	927	190
1409	S	Y	8483.6	1143	1117.6	125
1426	S	Y	6629.4	1854.2	1117.6	150
1427	S	Y	8001	1333.5	1117.6	150
1517	S	Y	7975.6	1955.8	1320	229
1606	C	Y	10287	2133.6	1524	165
1741	S	Y	8991.6	1828.8	1524	175
1797	C	Y	6807.2	2590.8	911	190
189	C	Y	6096	6400.8	1384.3	190
1894	S	Y	7975.6	1828.8	1222.375	178
1916	C	N	0	2387.6	914.4	178
1980	S	Y	10058.4	1676.4	1524	150
2143	S	N	0	1663.7	1041.4	125
223	C	Y	6705.6	2286	1752.6	150
2233	C	N	0	2692.4	1764.792	190
2235	S	Y	5943.6	2133.6	1117.6	215
233	S	Y	6350	1905	1320.8	150
2401	S	Y	8737.6	2438.4	1524	175
2430	S	Y	7975.6	2133.6	1320.8	165
278	C	Y	6096	2819.4	762	175
310	H	Y	6096	1828.8	990.6	180
315	S	Y	3000	1536.7	1370	150
340	S	Y	1828.8	2362.2	1117.6	175
358	S	Y	6172.2	1866.9	1117.6	215
436	S	Y	6096	2540	903	178
457	C	N	0	2743.2	1143	175
611	S	Y	6250	1206	610	140
6565	S	Y	8742.3625	1930.4	1524	170
698	S	Y	7016.75	2019.3	1524	165
6985W	C	N	0	1828.8	1066.8	203
70022	S	N	0	1638.3	1041.4	200
70156	H	Y	8128	2235.2	919	203
70566	S	Y	8483.6	1625.6	1320.8	150
70935	C	Y	5689.6	2819.4	923	175
710	S	Y	6705.6	2133.6	1524	175

FileNumber	Sim/Cont	Diaphragms	DiaSpacing	GirdSpacing	GirdDepth	DeckThickness
71054	S	Y	10160	1676.4	1524	190
71106	S	Y	4876.8	1371.6	1066.8	200
71116	C	Y	7010.4	2844.8	2743.2	203
71291	C	Y	6096	2540	2362.2	175
71313	S	Y	9909.175	1676.4	1524	150
71316	C	Y	6553.2	1828.8	903	178
71504	S	Y	5867.4	1905	1117.6	175
7168	S	Y	6743.7	1854.2	1117.6	175
72094	H	Y	7010.4	2743.2	2184.4	150
72467	C	Y	6883.4	2260.6	1752.6	165
72533S	C	Y	10133	1510	1500	175
72551N	S	Y	8382	2184.4	1524	150
72551S	S	Y	8382	2184.4	1524	150
73407	H	Y	7010.4	2743.2	2133.6	150
73410	C	Y	6197.6	2057.4	846	175
73425	S	Y	5003.8	2082.8	911	175
73429	H	Y	8229.6	2743.2	2133.6	225
73621	S	N	0	914.4	609.6	178
73810W	S	N	0	1638.3	1270	125
73836	C	Y	5359.4	1676.4	943	150
73837	S	N	0	1651	1295.4	178
73919E	S	Y	6705.6	2095.5	921	200
74227	C	Y	4622.8	5080	3581.4	165
74228	C	Y	3200.4	3041.65	2362.2	190
74229	C	Y	7048.5	2133.6	2438.4	215
74232	C	Y	7213.6	5791.2	3048	265
74233	C	Y	7315.2	5791.2	3454.4	265
74353E	C	N	0	3429	2311.4	190
74353W	C	N	0	3429	2311.4	190
74354E	C	N	0	1638.3	1270	125
74355E	C	Y	7315.2	2044.7	1524	191
74355W	C	Y	7315.2	1282.7	1117.6	175
74358	C	Y	10058.4	2844.8	1536.7	175
74381	S	Y	4572	1847.85	919	184
74440	S	Y	6502.4	2590.8	1841.5	150
74455	S	Y	8229.6	2235.2	927	165
74458S	C	N	0	2743.2	1473.2	175
74596	C	Y	7391.4	2133.6	927	165
7461	S	Y	7315.2	2743.2	2590.8	165
74653	H	N	0	2844.8	2159	175
74678	C	N	0	3098.8	1727.2	190
74679	S	Y	7620	1498.6	1117.6	175
74710	S	N	0	1625.6	1041.4	125
74954	S	Y	6426.2	2133.6	1118	175
74969	S	Y	8763	1828.8	1524	175
75014	H	Y	6096	3581.4	1914.525	165
75021	S	Y	6604	2082.8	1117.6	150
75051N	S	Y	5867.4	1428.75	1117.6	150
75051S	S	Y	5867.4	1428.75	1117.6	150
75055N	C	Y	6781.8	1879.6	688	200
75055S	C	Y	6781.8	1879.6	688	200

FileNumber	Sim/Cont	Diaphragms	DiaSpacing	GirdSpacing	GirdDepth	DeckThickness
75058N	C	N	0	2667	1473.2	150
75058S	C	N	0	2667	1473.2	150
75059	C	Y	7315.2	1955.8	911	175
75070	C	N	0	2590.8	1143	165
75111	S	Y	10058.4	1727.2	1524	150
75112	C	Y	5943.6	2082.8	1117.6	150
7513	S	Y	7975.6	1828.8	1320.8	175
75186	S	Y	10058.4	1676.4	1524	150
75193E	S	Y	4521.2	1828.8	1118	152
75193W	S	Y	4521.2	1828.8	1118	152
75195E	C	Y	6096	2311.4	835	152
75195W	C	Y	6096	2311.4	835	152
75315	H	y	5918.2	5791.2	3810	275
75332N	S	Y	4495.8	1930.4	688	150
75332S	S	Y	4876.8	1930.4	688	150
75335N	C	Y	6248.4	5791.2	2336.8	140
75335S	C	Y	6248.4	5791.2	2336.8	140
75337N	C	Y	5892.8	1930.4	835	150
75337S	C	Y	5892.8	1930.4	835	150
75338N	S	Y	6743.7	1930.4	1524	152
75338S	S	Y	6743.7	1930.4	1524	152
75341	S	Y	7048.5	2438.4	1320.8	150
75420W	C	Y	6705.6	2133.6	684	175
75522	C	Y	7620	2235.2	835	180
75529	S	Y	7620	2082.8	1829	165
7553	S	Y	7772.4	2235.2	1117.6	165
75535N	S	N	0	1219.2	812.8	125
75535S	S	N	0	1219.2	812.8	125
75539	C	Y	7696.2	2438.4	840	152
75555	C	Y	7620	2438.4	914.4	175
75644	C	Y	6146.8	2133.6	911	165
75651N	C	Y	6705.6	2489.2	903	175
75651S	C	Y	6705.6	2489.2	903	175
75677	C	Y	6553.2	2438.4	911	178
756N	S	N	0	1625.6	1270	178
75701	C	Y	6096	2540	2362.2	175
75744	H	Y	7315.2	2133.6	762	175
75760	S	N	0	1651	1041.4	125
75919S	C	Y	5486.4	2590.8	835	190
75931	H	Y	6248.4	2590.8	943	190
75932	C	Y	6705.6	2590.8	903	190
75945	S	N	0	1631.95	1041.4	125
76057	C	Y	6096	2235.2	903	175
76158	C	Y	7620	2209.8	915	125
76159	H	N	0	1625.6	1041.4	125
76161	S	Y	5791.2	1625.6	1016	200
76181E	C	Y	5943.6	2311.4	840	175
76181W	C	Y	5943.6	2311.4	840	175
76212	S	N	0	1631.95	1041.4	178
76223	S	N	0	1631.95	1041.4	125
76381	C	Y	6705.6	2032	927	165

FileNumber	Sim/Cont	Diaphragms	DiaSpacing	GirdSpacing	GirdDepth	DeckThickness
76540	S	N	0	1210	760	178
76558	S	N	0	1631.95	1041.4	125
766	S	Y	6096	2438.4	1524	175
76609	C	Y	6908.8	2641.6	1727.2	190
76649W	C	Y	7924.8	2235.2	903	175
76652	C	N	0	4267.2	1066.8	150
76845	C	Y	8800	5100	1525	250
76848	C	N	0	3962.4	1524	165
76850	S	N	0	1631.95	1270	125
77091E	S	N	0	1631.95	1041.4	125
77091W	S	N	0	1631.95	1041.4	125
77175	S	N	0	1631.95	1041.4	125
77177	S	N	0	1631.95	1270	125
77254	S	N	0	1631.95	1270	178
77303E	C	N	0	1225	760	150
77303W	C	N	0	1225	760	150
77782	S	N	0	1231.9	914.4	125
7802	S	Y	6076.95	1187.45	939.8	175
78031	C	Y	3900	2880	3800	255
7836	S	Y	6451.6	2133.6	1117.6	175
7871	S	Y	8483.6	1143	1117.6	175
78896	S	N	0	1631.95	1041.4	178
79432	S	N	0	1625	1270	150
8028	C	Y	6400.8	2133.6	762	150
8036	C	Y	6502.4	2235.2	923	175
8303	S	Y	5943.6	2095.5	1117.6	150
8435E	C	N	0	2438	939.8	165
8495	S	Y	7518.4	1828.8	758	175
8719	S	Y	6146.8	1828.8	927	190
8800	S	Y	6781.8	2260.6	1752.6	150
887	C	N	0	2590.8	1981.2	175
903	S	Y	8178.8	1473.2	927	190
904	S	Y	6705.6	1473.2	927	190
9099	S	Y	10160	1676.4	1524	140
9469N	C	N	0	2209.8	990.6	152
9469S	C	N	0	2209.8	990.6	152
9755	C	Y	7620	1981.2	919	150
9899W	C	Y	5486.4	1981.2	927	
9910	C	Y	7620	2235.2	919	190

VISUAL INSPECTION DATA (NOT USED)

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
00756N	87	A			2M	2M	5	5	5	5	4
00756N	91	C	Z		3M	3N	1N	5	5	5	4
06985E	88	A		B	5	5	5	5	5	5	4
06985E	92	A		B	4N	3M	5	5	5	5	4
06985W	88	C	H		5	5	3M	4W	5	5	4
06985W	92	C	H		4N	3N	4N	4M	3N	3N	4
08435E	87	A			5	5	5	5	3N	5	4
08435E	88	A		P	5	5	5	5	4M	5	4
08435E	92	A		P	4M	3M	4M	3N	3M	5	3
08435W	88	C	H		5	5	5	5	5	5	5
08435W	92	C	H		3M	4N	4N	3N	5	4N	4
09219E	85	A			5	5	5	5	5	5	4
09219E	90	A			5	5	5	5	5	5	4
09219W	85	C	H		5	4N	5	5	5	5	4
09469N	86	C	H		3M	3M	4M	3N	3N	3N	3
09469N	88	E	H		5	5	5	5	5	3N	4
09469N	92	E	H		4N	3N	5	5	3N	3N	4
09469S	86	C	H		3M	3M	4M	3M	2M	5	3
09469S	88	C	H		5	5	5	5	5	3N	4
09469S	92	C	H		5	4M	4N	4N	3N	3N	3
09899W	86	A			5	5	5	5	3L	4M	4
09899W	90	A			5	5	5	4N	3M	4N	4
09899W	94										
1053	87	A			3N	3N	5	4M	5	5	4
1053	91	A			4M	4M	4M	4M	5	5	4
1062	85	C			5	5	5	5	5	5	4
1062	90	C			5	5	5	5	5	5	4
1085	86	A			3M	2M	3M	5	5	5	4
1085	90	A			5	5	2W	5	5	5	4
1085	94										
1122	86	C	H		5	5	5	2N	2N	3N	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
1122	90	C	H		5	5	5	3N	3N	4N	3
1137	86	A			5	5	5	5	5	5	4
1137	90	A			4M	4M	5	3N	4N	5	3
1140	85	C			5	5	5	5	5	5	5
1145	85	A			5	5	3N	5	5	5	4
1145	90	A			5	5	5	3N	4N	5	4
1145	94										
1153	85	C			5	5	3N	5	5	4N	4
1153	90	E			5	5	5	5	5	4N	4
1153	94										
1158	87	A			5	5	5	5	5	3N	2
1158	91	A		P	5	5	3N	5	4N	2N	4
1227	94										
1241	89	A			5	5	2M	5	5	5	4
1241	93	A									
1245	87	C	H		5	5	5	5	3N	5	4
1245	91	E	H		5	5	5	5	2N	3N	3
1303	87	C	H		5	5	5	5	4M	5	4
1303	91	C	H		5	5	5	4M	3N	4N	3
13117	87	E	H		5	5	5	5	5	5	4
13117	91	E	H		5	4N	5	5	5	2N	3
13149	87	A			5	5	5	5	5	5	4
13149	91	A			5	5	5	5	4N	5	4
13166	86	C			5	3M	5	5	4L	5	4
13166	90	C			5	3M	5	5	5	5	4
13166	94										
13181	86	A			5	5	5	3N	5	5	3
13181	90	A			5	5	5	3N	5	5	3
13370	87	C	H		5	2N	5	5	2N	5	4
13370	91	C	H		4M	2M	3N	4N	4M	5	4
13486	93	A									
135	87	A		F	5	4W	5	5	5	5	4
135	91	A		F	5	5	5	5	5	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
13587	85	A		F	5	5	5	5	5	5	4
13587	91	A		P	5	5	5	5	5	5	4
13625	87	A			5	5	5	5	5	5	4
13625	91	A			4M	5	5	5	5	5	4
13742	93	A		P							
13821	85	A			5	5	5	5	5	5	4
13821	90	A			5	5	5	5	5	5	4
13824	87	C			5	4N	5	5	5	5	4
13824	88	E			5	5	5	5	5	5	4
13832	86	C	H		4M	3M	3M	4N	3M	5N	4
13832	90	E	H		5	5	5	5	4N	5	4
13832	94										
13838	93	A		P							
13852	93	E									
1402	86	A			5	5	5	5	4L	5	4
1409	89	C			5	5	5	5	5	5	4
1409	93	C									
1426	87	A			5	5	5	5	4N	5	4
1426	91	A			5	5	5	5	5	5	4
1427	87	A			5	5	2M	5	5	5	4
1427	91	A		P	5	5	5	4M	4M	4M	4
1432	86	A			3W	2W	3W	5	3N	5	3
149	93										
1493	90	E	H		5	5	5	3N	3M	3N	3
1493	94										
1517	86	A			5	5	5	5	5	2N	4
1517	90	A			5	5	5	5	4N	5	4
1517	94										
1536	86	A			5	5	5	5	5	5	4
1606	89	A		F	5	5	5	5	5	5	4
1606	93	A		F							
1632	89	A			5	5	2W	5	5	5	4
1632	93	A									

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
1669	92	A			5	5	5	5	5	5	4
167	89	C			5	2W	5	5	4N	5	4
167	93										
1741	85	C			5	5	5	5	5	5	4
1741	90	C			3M	3M	3M	3N	4N	4N	4
1741	94										
1766	86	C			5	5	5	5	5	5	3
1766	90	C			5	5	5	5	5	5	3
1766	94										
1767	91	C			4N	4N	5	5	3M	5	2
1797	85	A			5	5	2M	5	5	3N	4
1797	90	A			5	5	5	5	5	5	4
1810	89	A			5	5	5	5	5	5	4
1810	93	A									
189	87	A			5	5	2M	5	5	5	4
189	91	A		P	5	5	5	5	5	5	4
1894	86	A			5	5	5	3N	5	3N	4
1894	90	A			5	5	5	5	5	5	4
1916	93	C									
1980	86	E						3N	5	5	3
1980	90	E			4N	4N	4N	4N	5	4N	2
2008	86	C			5	5	5	5	5	2N	4
2010	87	C	H		4M	4M	5	5	5	5	4
2010	91	E			5	5	5	5	4N	4N	4
2102	92	A			5	4W	5	5	5	5	4
2143	87	A			5	5	5	5	5	5	4
2143	91	A			4M	3M	5	5	5	5	4
2155	85	C			5	5	5	5	5	4N	5
2212	86	A			5	5	5	5	5	5	4
2212	92	A			5	4W	5	5	5	5	4
223	86	A			2W	2W	3W	5	5	5	4
223	90	A			5	5	5	4N	3N	4N	4
2233	88	E	H		5	5	5	5	4M	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
2233	93	E	H								
2235	88	C	H		5	5	5	5	5	5	4
2235	92	C	H		5	5	5	5	5	5	4
2301	93	A									
233	88	C	H		5	3M	5	5	5	5	4
233	93	E	H								
2337	86	C			5	3W	5	5	5	5	4
2337	92	C			4N	3M	3N	5	4N	4N	4
2359	85	C	H		5	5	3N	5	5	5	4
2359	93	C	H								
2401	86	C			5	5	3M	5	5	4N	4
2401	90	C			5	5	5	5	5	5	4
2401	93	C									
2401	94										
2430	86	C	H		5	5	5	4M	5	5	4
2430	90	C	H		5	4N	5	4N	4N	4N	4
2430	94										
2431	93										
248	93	E	H								
2487	86	C	H		3M	2M	4M	4N	2N	4N	4
2487	90	C	H		3N	3N	4N	3M	3M	3N	4
2487	92	C	H		3N	3W	4N	4N	3M	4N	4
261	85	C			5	5	5	5	5	5	4
272	86	A		M	5	5	5	5	5	5	4
272	90	A		M	4M	3M	5	4N	5	5	4
274	92	A			5	5	3M	5	5	5	4
278	87	C	H		4N	5	5	5	4N	5	4
278	91	C	H		4W	4M	4	4N	3M	4N	4
286	89	A		F	5	2	5	5	5	5	4
286	93	A		F							
309	85	C			5	5	5	5	5	5	5
309	92	C			5	4N	5	5	5	5	4
310	88	A			5	5	2W	3N	3N	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
310	93	A									
313	86	C			3W	1W	5	5	5	5	3
315	86	C	H		5	5	5	4N	5	5	4
315	90	C	H		5	5	5	5	5	3N	4
340	86	C			5	5	3M	5	4N	5	4
340	90	C			5	5	3M	4N	3N	5	4
358	86	C			5	5	4M	5	5	4N	4
358	90	C			5	5	3M	5	5	5	4
395	85	C			5	5	5	5	4N	5	4
436	86	A			3W	5	3N	5	5	5	4
436	90	C	Z		5	5	4N	5	5	5	4
457	87	A			5	3N	5	5	5	5	4
457	91	A		P	4M	4M	5	3N	4N	5	4
521	86	A			2W	4W	3W	2W	2M	2M	2
570	85	C			5	4M	5	5	5	5	4
570	90	C			5	4N	5	5	5	5	5
570	94										
589	87	E			5	5	5	5	3N	5	4
589	91	E			5	5	5	5	4N	5	4
611	88	E			5	5	5	3W	5	5	4
6548	86	C			5	5	5	5	5	5	4
6548	92	C			5	5	5	5	4M	5	4
6565	87	C	H		5	5	5	5	5	5	4
6565	91	C	H		5	5	5	5	4	5	4
6565	92	C	H		4N	3N	5	4N	4N	5	3
6733	86	C			3M	5	4M	5	5	5	4
6733	92	C			5	2W	2W	5	5	5	4
6809	93	A									
698	85	A		F	5	5	5	5	5	5	4
698	90	A			4M	4M	5				4
70009	87	C	H		5	2N	5	5	2M	5	4
70009	91	C	H		4N	4M	5	3W	3W	4N	4
70022	85	C	H		4N	5	5	5	5	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
70022	90	C			4W	5	5	5	5	5	4
70022	94										
70156	86	C	H		5	5	5	5	5	5	4
70156	90	C	H		5	5	5	5	5	2M	3
70156	94										
70247	86	A			3W	3W	3W	4L	5	5	4
70247	91	C	Z		5	5	5	5	4N	4N	4
70277	88	A			4M	5	5	5	5	5	4
70277	93	A									
70509	92	A			3M	3M	3M	5	5	5	4
70566	87	A			5	5	5	5	5	5	4
70566	91	A		P	5	5	5	5	5	5	4
70577	85	C			5	5	5	5	5	5	5
70580	87	C	F		5	5	5	5	5	5	4
70580	91	C	F		4M	5	5	4W	5	5	4
70594	86	C	H		5	5	5	5	4M	5	4
70594	90	C	H		5	5	5	5	4N	5	3
70594	94										
70626	85	A		F	5	5	5	5	5	5	5
7086	92	C			5	5	5	5	3N	5	4
70935	85	C	H		4N	4N	5	5	5	5	4
70935	90	C	H		5	3M	5	5	5	5	4
70935	94										
710	85	A			5	5	5	5	5	5	4
710	90	C			5	5	5	5	4N	5	0
710	92	C			5	5	4M	5	4N	4N	4
71019	87	C			5	4M	5	5	5	5	3
71019	91	E			5	5	5	5	4N	5	4
71054	86	C			5	5	4M	5	5	5	4
71054	90	C			5	5	5	5	5	5	4
71054	94										
7109	86	C			5	4N	5	5	5	5	3
71106	86	A			4M	5	5	5	4N	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
71106	90	A			4W	5	5	4W	4N	5	4
71106	94										
71116	88	C	H		5	5	5	5	4N	5	4
71116	92	C	H		4M	3M	4M	3N	4N	4N	4
71145	93	C									
71291	88	A			5	5	2M	5	3N	5	4
71291	92	A			3M	2M	4M	4N	3N	4N	4
713	89	A			5	4W	5	5	5	5	4
71313	86	C			4M	4W	4W	5	5	5	4
71313	88	E			5	5	5	5	5	5	4
71313	92	E			5	5	5	4N	4N	5	4
71315	86	C			5	5	5	5	2L	3L	4
71315	90	E			5	5	5	3N	3N	4N	4
71316	85	C			5	3N	5	5	4N	5	4
71316	90	E			5	5	5	5	3N	5	4
71316	94										
71504	87	C			5	5	5	5	5	5	4
71504	91	C			5	5	5	5	4N	4N	4
7168	86	C			5	5	5	5	5	5	4
7168	90	C			5	5	5	5	5	5	4
7168	94										
72007W	87	C	H		4N	4N	5	5	5	5	5
72094	87	C	H		5	5	5	3M	3M	5	3
72094	91	C	H		4N	2N	5	5	2N	2N	3
72186	85	A			5	5	5	5	5	5	4
72345	92	A			3M	3M	4M	5	5	5	4
72467	86	A			5	5	5	5	5	5	4
72467	90	A			5	5	4M	5	4	5	4
72467	94										
72533S	87	A			2M	2M	5	5	5	5	4
72533S	91	A		P	5	5	5	4N	4N	4N	4
72535S	87	A			5	4N	5	5	5	5	4
72535S	91	A			5	5	5	4N	4N	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
72545	86	A			5	5	3W	5	5	5	3
72551N	87	C	H		5	2M	5	5	5	5	4
72551N	91	C	H		5	5	3M	5	4M	5	4
72551N	92	C	H		3N	3M	4N	5	3N	4N	4
72551S	87	C	H		2N	2N	5	5	5	5	4
72551S	91	C	H		5	5	3M	5	5	5	4
72551S	92	C	H		4N	3N	2N	5	4N	3N	4
7256	93	C									
72640	87	A			5	5	3M	5	5	5	4
72705	86	A			3M	2M	5	4M	2M	3M	4
72810E	85	C	H		5	5	5	5	5	5	5
72810E	94										
72810W	85	C	H		5	5	5	5	5	5	5
72810W	94										
73184	85	C	H		4M	5	5	5	5	5	4
73274	85	C	H		4M	5	5	5	5	5	4
73274	93	C	H								
73275	85	C	H		5	3N	5	5	3N	5	4
73275	93	E	H								
73277	93	A									
73407	86	C	H		5	5	5	5	4M	5	4
73407	90	E	H		5	5	5	5	4M	5	4
73407	94										
73410	87	C			5	4N	5	5	5	3N	3
73410	91	C			5	4N	5	5	5	2N	4
73420	93	A									
73425	86	C			5	5	5	5	5	5	3
73425	88	C			5	5	5	5	5	5	4
73425	93	E									
73429	86	E			5	5	5	5	4W	5	4
73429	90	E			5	5	5	5	3M	5	4
73527	86	A			4W	4W	2W	3M	3M	5	3
73621	85	A			5	5	3N	5	5	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
73621	90	A		P	5	5	5	5	5	5	4
73621	94										
73636	86	A			5	5	2M	5	5	5	3
73636	90	A			5	5	5	5	5	4N	3
73637	90	A		B	5	5	5	5	5	5	5
73640	88	C	H		5	5	5	4M	5	5	4
73640	93	C	H								
73757	85	C			5	5	5	5	5	5	5
73757	92	A		P	5	5	5	5	5	5	4
7377	92	A			4M	4M	4N	3N	4N	5	3
73779	94										
73810W	87	C	H		3M	5	5	5	5	5	4
73810W	91	E	H		5	5	5	5	5	5	4
73819	87	A			5	4M	5	5	5	5	4
73819	91	A			5	4W	5	5	4M	5	4
73823E	92	E	H		4N	4N	5	5	5	5	4
73825E	85	C	H		2W	5	5	5	5	5	3
73825E	92	E	H		5	4W	5	5	5	5	4
73825W	92	E			5	5	4N	5	5	5	4
73836	85	C	H		5	5	5	4N	5	5	4
73836	88	C	H		4M	4M	5	5	4M	5	4
73836	92	C	H		3W	3W	3M	4M	3M	3M	3
73837	87	C	H		3N	5	5	5	5	5	4
73837	91	C	H		3M	4N	5	5	5	5	3
73919E	87	C	H		3N	3M	5	5	3N	5	3
73919E	91	C	H		4N	3N	5	4N	3N	4	3
73920W	93	A		E							
73922	88	A			5	2W	5	5	5	5	4
73922	92	A		P	3M	3M	2M	5	3N	4N	4
73949	87	C	H		5	3M	5	5	5	3N	4
73949	91	E	H		4N	3N	5	4N	4N	3M	4
7398	85	C	H		4N	1M		5	5	5	3
7398	93	C	H								

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
740	92	A			5	5	5	5	5	5	4
7401	85	C	H		5	5	3N	5	5	5	5
74116	92	A			5	3W	5	5	4M	5	4
74137	93	A									
74195	85	A			5	5	3M	5	4W	5	3
74195	90	A			3M	3M	4M	3M	3N	4N	4
74217	88	E	H		4W	5	5	5	5	5	4
74217	93	E	H								
74222	88	A			5	5	2M	5	4N	5	4
74227	85	A			5	5	3N	5	4N	4	4
74227	90	A			5	5	2M	5	4N	5	4
74227	94										
74228	86	C	H		5	4N	5	5	3M	2N	4
74228	88	E	H		5	5	5	5	4N	5	4
74228	92	E	H		5	3N	5	5	4M	5	4
74229	87	C	H		5	5	5	5	5	5	4
74229	91	C	H		5	5	5	5	3N	5	4
74229	94										
74232	88	A		F	5	5	5	5	3N	5	4
74232	94										
74233	93	E	H								
74236	88	A			5	5	5	55	5	5	0
74236	94										
74282W	86	A			5	5	4M	4W	3M	3M	3
74282W	90	A			4M	4M	5	3M	3M	5	2
74352E	85	A			5	5	5	5	5	5	4
74352E	93										
74352W	85	C	H		3N	5	3N	3W	4N	5	4
74352W	93										
74353E	86	C	H		1M	1M	2N	5	3W	5	4
74353E	88	C	H		3M	3M	2N	5	4M	5	4
74353E	92	E	H		5	5	4N	5	3M	4N	4
74353W	86	C	H		2M	2M	3N	5	4W	5	3

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
74353W	88	E	H		5	5	5	5	4N	5	4
74353W	92	E	H		5	4N	5	4N	3M	5	3
74354E	88	A			5	3M	2M	5	5	5	4
74354E	92	A			5	5	5	5	5	4N	4
74354W	86	C	H		1N	2M	3M	3W	4W	5	3
74354W	88	C	H		3W	3W	2N	4M	5	4M	4
74354W	92	E	H		5	5	5	3M	3N	3N	3
74355E	87	A		P	5	5	5	5	5	5	4
74355E	91	A		P	5	5	3W	5	5	5	4
74355E	92	A		P	4M	3M	4N	5	5	4N	4
74355W	87	C	H		5	5	5	5	2N	5	4
74355W	91	E	H		5	5	5	5	3M	5	4
74355W	92	E	H		5	3N	5	4N	3M	3M	4
74358	87	C			5	3M	3M	5	3N	5	4
74358	91	C			4M	3W	5	5	4N	3N	3
74381	87	C	H		5	3M	5	5	3N	4N	3
74381	91	C	H		4M	2M	5	5	4N	3M	3
74381	94										
74426	87	A			5	5	5	5	4N	5	4
74426	91	C			5	3M	5	5	3N	3N	2
74426	93	C									
74426	94										
74440	87	C	H		5	4N	5	5	4N	4N	4
74440	91	E	H		4N	3N	5	5	3N	4N	3
74447	90	C			5	5	5	5	5	5	5
74452	88	C	H		5	3N	4N	3	N3	N4	3
74458S	87	C	H		5	2N	5	5	2N	5	4
74458S	91	C	H		5	4M	5	5	4M	5	4
74458S	92	C	H		4N	3M	5	4N	3M	3M	3
74540	86	C			5	5	3M	5	4M	5	4
74540	92	C			4M	2W	3M	4N	3M	4N	3
74596	86	A		F	5	5	5	3N	2N	5	4
74596	91	A		F	5	5	5	5	4	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
74600W	86	A			4M	4M	4M	5	5	5	4
7461	87	A			5	2N	5	5	5	5	4
7461	92	C	F		5	5	5	4N	3N	5	4
74653	87	C	H		5	5	2N	5	4N	5	4
74653	91	C	H		4N	2M	3N	4N	4N	5	4
74678	87	C	H		5	4M	5	5	5	5	4
74678	91	C	H		5	3M	2N	4N	4N	5	4
74679	87	C	H		5	5	3N	5	5	5	4
74679	91	C	H		4N	4N	4N	5	4N	4N	4
74710	87	A		E	5	5	5	5	5	5	4
74710	91	A		E	3W	3W	5	5	4N	4M	3
7475	88	A			5	5	5	5	3N	5N	4
7487	88	C	H		5	5	5	5	5	5	4
7487	92	C	H		5	5	5	5	5	5	4
7492	88	A			5	4W	5	5	5	5	4
74954	87	C	H		5	5	5	5	3N	5	4
74954	91	C	H		5	5	5	5	3N	2N	4
74969	87	C			5	5	4M	5	5	5	3
74969	91	C			4N	4M	5	5	5	4N	3
74978E	85	A			5	5	5	5	5	5	4
74978E	91	A		P	4W	4W	5	4N	5	5	4
74978W	85	A			5	5	3N	5	5	5	4
75014	85	C	H		5	3N	5	4N	3N	5	4
75014	88	C	H		5	2M	5	5	4M	5	4
75014	92	E	H		4M	3M	5	5	3M	5	3
75021	87	C	H		5	3N	5	5	5	5	4
75021	91	C	H		5	5	5	5	5	5	4
75051N	86	C	H		3W	3M	3M	3N	3N	3N	4
75051N	90	E	H		5	5	5	5	5	2N	4
75051N	92	E	H		5	5	5	3N	4N	3N	3
75051S	86	C	H		3W	3M	3M	3N	3N	3N	4
75051S	90	C	H		5	5	5	5	5	2N	4
75051S	92	C	H		5	5	5	3M	3M	3N	3

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
75054	88	A		P	5	5	5	5	5	5	4
75054	92	A		P	4W	5	3W	5	5	5	4
75055N	88	C	H		5	4N	5	4M	3M	5	4
75055S	88	C	H		5	4N	5	5	3M	3M	4
75055S	93	C	H								
75058N	91	E	H		5	5	5	5	4N	4N	4
75058N	94										
75058S	87	C	H		5	5	5	5	4M	5	4
75058S	91	E	H		5	5	5	5	4N	5	4
75058S	94										
75059	86	A			5	5	5	5	5	5	4
75059	90	A			5	5	5	5	5	5	4
75066	85	C	H		5	5	5	5	2M	5	4
75070	87	C	H		5	2N	5	5	4N	5	4
75070	91	E	H		5	5	5	5	4N	5	4
75111	88	C	H		5	3M	2N	5	5	3N	3
75111	92	E	H		5	5	5	5	5	5	4
75112	86	A			5	5	5	5	4M	5	4
75112	88	A		P	5	5	5	5	5	5	4
75112	92	A		P	5	5	5	5	5	5	4
75118	86	A			5	5	5	4N	3N	2M	3
75118	90	A			5	5	2M	4W	5	4W	3
75118	94										
7513	86	C			5	5	5	4M	5	5	4
7513	92	C			4M	4N	4N	5	5	4N	4
75186	86	C	H		4L	3L	5	4M	4L	3L	4
75186	90	E	H		5	5	5	4N	4N	5	4
75186	94										
75187	85	A			5	5	5	5	5	5	3
75187	88	A			5	3N	5	5	5	5	4
75193E	87	C	H		4M	5	5	4N	5	5	4
75193E	88	C	H		3M	5	5	4M	5	5	4
75193E	93	C	H								

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
75193E	94										
75193W	87	C	H		4M	5	5	4N	5	5	4
75193W	88	C	H		3M	5	3M	3M	5	5	3
75193W	93	C	H								
75193W	94										
75195E	88	E	H		5	5	5	5	5	3N	4
75195E	92	E	H		4M	3M	5	3M	2M	3M	4
75195W	88	E	H		5	5	5	5	5	2N	4
75195W	92	E	H		5	3M	5	5	3W	3W	4
75197	85	A			5	5	4	5	5	5	4
75197	91	A		P	5	5	5	5	5	4N	4
75305	87	L			4N	5	5	5	5	5	4
75305	91	L			5	5	5	5	5	5	4
75315	88	P			5	5	5	5	4M	5	4
75315	92	P			5	5	3N	4N	3M	3N	4
75331S	88	A			5	5	5	5	4N	5	4
75332N	85	A			3M	3M	3W	3M	3M	3M	4
75332N	90	A			5	5	5	3N	3N	4N	4
75332S	85	A			3W	3M	3M	5	5	2M	4
75332S	90	A			5	5	5	2N	3N	3N	4
75332S	94										
75335N	85	A			5	5	5	5	4N	5	4
75335N	90	A			5	4M	5	5	2N	5	4
75335N	94										
75335S	85	A			5	5	5	5	4N	5	4
75335S	90	A			4M	4M	5	4N	3N	5	4
75335S	94										
75336	85	A			5	4M	5	5	3W	4N	4
75336	90	A			5	5	5	3N	3M	3N	4
75337N	85	A			5	5	5	5	5N	4N	4
75337N	90	A		P	5	5	5	4M	3M	4N	4
75337N	94										
75337S	85	A			5	5	5	5	5	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
75337S	90	A		P	5	5	5	3N	3M	3N	4
75337S	94										
75338N	85	A			3N	3N	2N	5	5	5	4
75338N	90	A			5	5	5	5	4N	5	4
75338N	94										
75338S	85	A			5	5	5	5	5	5	4
75338S	90	A			5	5	5	5	4N	5	4
75338S	94										
75339N	85	A			5	5	3N	5	3N	5	4
75339N	90	A		P	4M	5	5	4N	3N	4N	4
75339S	85	A			5	5	3N	5	3N	5	4
75339S	90	A		P	4M	4M	5	4N	3M	4N	4
75340N	85	A			5	5	3N	3N	5	5	4
75340N	93	A									
75340S	85	A			5	5	3N	3N	5	5	4
75340S	93	A									
75341	85	C	H		5	5	5	5	5	5	4
75341	90	C	H		3N	4N	5	5	5	3N	4
75383	85	A			5	5	5	5	5	5	5
75383	94										
75420W	87	C	H		3M	3M	5	5	3N	5	4
75420W	91	C	H		4N	3N	3N	4N	3N	4N	3
75498	88	A			5	3N	3N	5	5	5	5
75498	92	A		P	5	5	5	5	5	5	4
75500	86	A			2W	2W	2W	5	5	5	4
75500	92	A			3W	3W	2W	5	5	5	4
75522	86	A			4W	2W	5	5	2M	5	3
75522	88	A			5	5	2M	5	2M	5	3
75529	85	A		F	5	5	4N	5	5	5	5
75529	90	A		F	5	5	4N	5	5	4N	4
75529	94										
7553	86	C	H		4M	5	5	5	5	4M	4
7553	90	C	H		4N	5	5	4N	3N	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
75535N	85	A			5	5	5	5	5	5	4
75535N	90	A			4M	5	5	5	5	5	4
75535N	94										
75535S	85	A			5	5	5	5	5	5	4
75535S	90	A			4M	5	5	5	5	5	4
75535S	94										
75538	93	A		E							
75539	85	C			5	2N	3N	5	5	5	3
75539	90	C			5	5	5	5	5	5	4
75539	94										
75543E	85	A			5	5	5	5	5	5	4
75543W	85	A			5	5	5	5	5	5	4
75555	87	C	H		5	5	5	5	2M	5	4
75555	91	E	H		5	5	5	5	3N	5	4
75644	85	A			5	5	5	5	3M	3M	3
75644	88	A		P	5	5	5	5	2M	5	4
75644	92	A		P	3M	3M	5	5	2M	5	4
75651N	85	A			5	5	5	5	4M	5	4
75651N	90	A			5	5	5	5	3N	4N	4
75651N	94										
75651S	85	A			5	5	5	5	4M	5	4
75651S	90	A			5	5	5	5	3N	3N	4
75651S	94										
75667	86	A			5	5	3W	5	5	5	4
75667	91	A		S	5	5	5	5	4N	5	4
75677	91	E	H		5	5	5	5	4M	5	4
75694	90	C			5	5	5	5	5	5	4
75694	94										
75701	87	A		F	5	2N	5	5	2N	5	4
75701	91	A		F	4N	5	5	5	4N	5	4
75707S	85	A			5	5	2W	5	4M	5	4
75707S	90	A		P	5	5	5	5	4N	5	4
75722	86	A			5	5	4M	5	5	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
75722	91	A			3N	3N	5	5	5	5	3
75723	92	C			5	4W	5	5	4M	5	4
75724	88	A		P	5	5	5	5	5	5	4
75724	92	A		P	5	5	5	5	5	5	4
75725	91	A		P	5	5	5	5	5	5	4
75731	85	A			5	5	5	5	5	5	4
75744	86	A			5	5	3M	5	5	5	4
75744	90	A		P	4N	5	5	5	5	5	4
75744	94										
75754	92	A			5	5	5	5	5	5	4
75760	85	A			4M	4W	5	5	5	5	4
75760	91	A			3N	4N	5	5	5	5	3
75876	93	A		F							
75919S	87	A		F	2M	2M	5	5	4N	5	4
75919S	91	A		F	5	4N	5	5	3N	4N	4
75929	94										
75931	86	A		F	5	5	5	5	3M	5	4
75931	91	A		F	5	5	5	5	4M	5	3
75932	85	C	H		5	5	5	5	3N	5	4
75932	88	C	H		5	5	5	5	3N	5	4
75932	94										
75933	86	A		F	5	5	5	3M	2W	5	3
75945	88	A			5	5	5	5	5	5	4
75945	92	A			5	5	5	5	5	5	4
75946	87	E	H		5	5	5	5	5	5	4
75946	91	E	H		5	5	5	5	4N	4N	4
75994	88	A		F	5	5	2W	5	5	5	3
76034	85	C			5	3N	5	5	3N	5	4
76034	91	E			5	5	5	5	3N	4N	4
76057	87	C	H		4N	3M	5	5	4M	5	4
76057	91	E	H		5	4N	5	5	4M	4M	4
76092	86	A		F	5	5	2M	5	4N	5	4
76102N	85	A		F	5	5	5	5	5	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
76117	90	C			4W	5	5	4W	5	5	3
76128	85	A			5	5	5	5	5	5	4
76158	86	A			3M	3M	3M	3N	4M	5	4
76158	88	A			5	5	2W	5	4M	5	4
76159	88	C	H		5	5	3N	5	5	4N	3
76159	92	C	H		4N	4N	4N	5	4N	5	4
76161	87	A			5	5	3M	5	5	5	4
76161	91	A			5	5	3N	5	5	5	4
76177	88	A		P	5	5	3N	5	5	4N	4
76177	92	A		P	5	5	5	5	4M	5	4
76181E	85	A		F	5	5	3W	5	4N	5	4
76181E	90	A		F	4N	5	5	5	4N	5	4
76181W	85	A		F	5	5	3M	5	4M	5	4
76181W	90	A		F	5	5	5	5	4N	5	4
76185	85	A			5	4N	4N	5	5	5	4
76185	90	A			5	4W	5	5	5	5	4
76185	94										
76186	85	A			5	5	3N	5	5	5	4
76186	90	A			5	4W	5	5	5	5	4
76186	94										
76212	87	C			5	5	5	5	5	5	4
76212	91	C			5	5	5	5	5	4N	3
76223	87	C			4M	5	4M	5	5	5	4
76223	91	A			5	4N	5	5	5	5	4
76226	87	A		F	5	4W	5	5	5	5	4
76301	94										
76330	85	A		F	5	5	5	5	5	5	5
76339E	85	A			3W	4M	4M	5	5	5	4
76339W	85	A			3W	4M	4M	5	5	5	4
76364	85	A		F	5	5	2N	5	5	5	4
76364	90	A		F	5	5	2N	5	5	5	4
76364	94										
76378	87	A			5	3N	5	5	4N	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
76378	91	A			5	5	5	5	3W	5	4
76381	88	A			4N	4N	3N	4N	4N	5	4
76381	93										
76382N	88	A			4M	4M	5	5	3N	3N	4
76382N	88	A			4M	4M	5	5	3N	3N	4
76392	93										
76478	86	A			3W	3W	3W	5	5	5	4
76528	85	A			5	5	5	5	5	5	4
7653	90	C	H		4N	5	5	4N	3N	5	4
76540	88	A		P	5	5	5	5	5	5	4
76540	92	A		P	4M	5	4M	5	5	5	4
76558	86	A			5	5	5	2N	4M	5	4
76558	90	A			5	4	5	5	5	5	4
76558	94										
766	86	C			5	5	4M	5	4N	5	4
766	90	C			5	5	5	5	5	5	4
766	94										
76609	86	A			3W	3W	3W	5	4W	5	4
76609	88	A			5	5	5	5	3N	5	5
76609	93	A		P							
76615	92	A		P	5	5	5	5	5	5	4
76633	85	C			5	5	5	5	5	5	4
76634	85	C			5	5	5	5	5	5	4
76639	87	C			5	5	5	5	5	5	4
76639	91	A			3N	3N	3N	5	4N	5	4
76646E	85	A			5	5	4N	5	5	5	4
76646W	85	A			5	5	4N	5	5	5	5
76646W	88	A			5	5	5	5	3N	5	4
76648	91	A			4N	4N	5	5	5	5	4
76649W	91	A			4M	2M	3M	5	4N	5	3
76650N	88	A		M	4N	5	5	5	5	5	4
76650S	88	A		M	5	5	5	5	5	4N	4
76652	86	C	H		3M	2M	4M	5	4L	5	3

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
76652	91	C	H		3M	3M	5	5	5	5	3
76653	86	A			5	2M	5	5	5	2N	4
76660	88	A			5	5	3M	5	5	5	4
76660	92	A			5	4W	5	5	4W	5	4
76669	85	A			5	5	5	5	5	5	4
76719	85	C	H		4M	5	5	5	5	5	4
76719	91	E	H		5	5	5	4N	5	5	4
768	92	C			5	5	5	5	5	5	4
76805E	88	A		E	5	5	5	5	5	5	4
76805E	93	A		E							
76805W	88	A		E	5	5	5	5	5	5	4
76805W	93	A		E							
76845	87	C	H		5	5	5	5	5	5	4
76845	91	C	H		5	5	5	5	4M	5	4
76848	86	A			5	2M	5	5	5	2N	4
76848	91	E	F		5	5	5	5	5	5	5
76850	86	A			5	5	5	5	5	5	4
76850	90	A			5	5	5	4N	5	4N	4
76927	87	A			3M	3M	5	5	5	5	4
76927	91	A			2W	2W	2W	5	4W	5	4
77054E	87	A			5	5	5	5	5	5	4
77054E	91	A		P	5	4N	5	5	4N	5	4
77088	85	C	H		5	5	5	5	5	5	5
77088	90	C	H		4N	5	5	5	5	5	4
77088	94										
77091E	87	A			5	5	5	5	5	5	4
77091E	91	A			4W	5	5	5	5	5	4
77091W	87	A			5	5	5	5	5	5	4
77091W	91	A			5	4W	5	5	5	5	4
77091WC	87	A			4M	5	5	5	5	5	4
77091WC	91	A			5	4W	5	5	5	5	4
77126	88	A			4M	5	5	4N	5	5	4
77129	93	A		E							

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
77173E	86	A			4M	3M	5	4N	4N	5	4
77175	87	A			5	5	5	5	5	5	4
77175	91	A			3W	5	5	5	4N	4N	4
77177	88	A		E	5	5	2M	5	5	5	4
77177	93	C	J								
77254	93	A		P							
77288	85	C	H		5	5	5	5	5	5	4
77288	85	C	H		5	5	5	5	5	5	4
77289	85	C	H		5	5	5	5	5	5	4
77289	85	C	H		5	5	5	5	5	5	4
77295	92	E			5	3M	5	4M	3N	5	4
77303E	85	C	H		5	5	5	5	5	5	4
77303E	87	C	H		5	5	5	5	5	5	4
77303E	91	C	H		5	3N	5	5	5	5	4
77303W	85	C	H		5	5	5	5	5	5	5
77303W	87	C	H		5	5	5	5	5	5	4
77303W	91	C	H		5	4N	5	5	5	5	4
77315	93	A									
77349	88	C	H		5	5	5	5	5	5	4
77349	92	C	H		4W	5	5	5	5	5	4
77419	85	C	H		4N	4N	5	5	5	5	5
77419	90	C			5	4M	5	5	5	5	4
77426	93	A									
77466	86	A			3W	3W	5	5	5	5	4
77466	90	A			4M	3M	3M	5	5	5	4
77493	90	C			4N	5	5	4N	5	5	4
77534	91	A		P	4M	3W	5	4N	4N	4N	4
77753W	93	A		E							
77782	87	C	H		3M	5	5	5	5	5	4
77782	91	C	H		4M	5	5	5	5	5	4
77816	93										
77817	93	A		E							
77846	85	C	H		5	5	5	5	5	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
77872N	94										
77878	93	A									
7802	87	C	H		4N	5	5	5	5	5	4
7802	91	C	H		3N	5	5	5	5	5	3
78031	94										
78104	93	A		M							
78123	85	C	H		5	5	5	5	4M	5	4
78123	93	C	H								
7815	93	C									
78187	90	A			5	5	5	5	5	5	4
78194	85	C			5	5	5	5	5	5	4
78194	90	C			5	5	5	5	5	5	4
78194	94										
78197	85	C			5	5	5	5	5	5	5
78197	94										
78199	93										
78215	93										
7824	85	C			5	5	5	3N	5	5	4
7824	92	C			4N	5	4N	3N	5	5	4
78313	85	C	H		5	5	4N	5	5	5	4
78314	85	C	H		5	5	4N	5	5	5	4
7836	86	C			4W	3W	3W	5	4M	3N	3
7836	90	C			5	5	5	4N	4N	4N	4
78595	85	C	H		5	5	5	5	5	5	4
78595	85	C	H		5	5	5	5	5	5	4
786	85	C	H		5	5	5	5	5	5	5
786	93										
7870	85	C	H		5	5	5	5	5	5	4
7871	86	C			5	4M	3M	5	5	5	4
7871	90	C			5	5	5	5	5	5	4
7871	94										
78730	85	C	H		5	4N	5	5	5	5	5
78730	90	C			5	5	5	5	2N	5	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
78765	85	C	H		3M	5	5	5	5	5	4
78765	93	C	H								
78808	85	C	H		4M	5	5	5	5	5	3
78808	93	C	H								
78832	85	C			5	5	5	5	5	5	5
78896	88	A			5	5	2M	5	5	5	4
78896	92	A			5	5	2W	5	5	5	4
79201N	85	A			5	5	5	5	5	5	4
79201S	85	A			5	5	5	5	5	5	4
79375	85	C	H		5	5	5	5	5	5	5
79375	92	A			4M	5	5	3N	5	5	4
7938	85	C	H		5	5	5	5	5	5	5
79432	85	C	H		4N	5	5	5	5	5	5
79432	93										
79439	85	C			5	5	5	5	3N	5	3
79443	85	C	H		5	5	5	5	5	5	4
79443	93	C	H								
79671	85	C			5	5	5	5	3N		4
7978	88	E			5	5	5	5	4N	5	4
80121	92	C			5	5	5	5	5	5	4
80122	92	C			4W	5	5	5	5	5	4
80134	92	C			4W	5	5	5	5	5	4
80135	92	C			5	5	5	5	5	5	4
80152	92	C			5	5	5	5	5	5	4
80153	92	C			5	5	5	5	5	5	4
8028	88	C	H		4M	4M	5	3N	3N	5	4
8028	92	C	H		5	3W	5	5	4M	2N	4
8036	87	C	H		4N	2M	5	4N	3M	5	3
8036	92	C	H		4M	3M	5	5	4M	5	4
8077	93	A									
820	86	A			5	5	5	3N	5	3N	4
820	90	A			5	4W	5	5	5	5	4
8303	86	C			5	5	3M	5	5	4M	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
8303	90	C			5	5	5	4N	4N	5	2
8303	94										
8487	85	C			5	5	5	5	5	4N	5
8487	92	C			5	5	5	5	5	5	4
8495	93	E	H								
8641	93	A		F							
8707	85	C	H		5	5	5	5	5	5	4
8719	86	C	H		5	5	5	5	5	3M	4
8719	88	C	H		4N	5	5	5	5	5	4
8719	93	E	H								
875	90	A		B	4M	5	5	5	5	5	4
876	86	A			5	5	3M	5	5	5	4
876	90	A			3N	5	3N	5	5	5	4
8792	87	A			4M	5	5	5	5	5	5
8792	91	A			5	5	5	5	5	5	4
8800	86	A			4W	5	4W	5	5	5	4
8800	91	A			5	5	3N	5	5	5	4
887	85	C	H		5	5	5	5	4N	5	4
887	88	C	H		2M	2M	4N	5	4N	5	4
887	92	C	H		3W	2W	5	5	3N	5	4
8987	86	C			5	3M	5	5	5	5	4
8987	92	C			5	4M	5	5	5	5	4
903	86	C	H		5	5	1N	3N	3N	5	3
903	90	C	H		4N	4N	5	2N	2N	2N	3
904	86	C	H		4M	4M	5	3N	3N	5	3
904	90	C	H		4N	4N	4N	3N	3N	3N	3
9099	86	C			5	3W	3W	5	3M	5	4
9099	90	C			5	5	5	5	4N	5	4
9099	94										
9230	92	C			5	5	5	5	5	5	4
9259	93	A		E							
9259	93	A		E							
9551	86	C	H		5	4N	5	5	5	3N	4

FileNumber	InspDate	W/S	O/L	Memb	LngCk(W/S)	TrCk(W/S)	RanCk(W/S)	LngCk(Und)	TrCk(Und)	RanCk(Und)	Overall
9551	88	C	H		5	4M	5	5	4M	5	4
9551	93	C	H								
9590	85	C			5	5	5	5	5	5	5
9590	92	C			5	3N	5	5	5	5	4
962	86	C			5	4N	3N	5	5	4N	4
962	90	E			5	5	5	5	4N	5	4
9755	86	A			3M	3M	4M	2M	2M	2M	3
9755	90	A			5	4M	4W	3N	3N	4N	3
977	89	C	H		5	5	5	5	4N	5	4
977	93	C	H								
983	86	A			5	5	5	3M	5	2M	4
983	90	A			5	5	5	4N	5	5	4
9903	91	C	Z		4M	5	1N	4N	5	5	3
9910	87	C	H		4N	3M	5	5	5	2N	3
9910	90	E	H		5	5	5	3N	5	3N	3
992	86	C			3N	1N	3N	5	3M	5	2
992	90	C			5	1M	3M	5	3M	3M	2
999	86	C			5	2W	3M	5	4N	5	4
999	92	C			5	2W	5	5	3M	5	4

YEAR OF FIRST REHAB DATA

FileNumber	YearOf FirstRehab	Description
149	1993	FRSF O/L
167	1987	sealed
189	1989	membrane/ACP
233	1982	HD Conc O/L
272	1995	FRSF O/L
274	1992	membrane/ACP
278	1992	Epoxy O/L
310	1990	membrane/ACP
315	1979	HD Conc O/L
370	1989	membrane/ACP
395	1985	Epoxy O/L
436	1995	SF Conc O/L
457	1988	membrane/ACP
589	1985	Epoxy O/L
611	1966	Epoxy O/L
710	1998	FRSF O/L
740	1983	membrane/ACP
756N	1990	Conc O/L
786	1981	HD Conc O/L
887	1983	HD Conc O/L
903	1982	HD Conc O/L
904	1983	HD Conc O/L
962	1988	Epoxy O/L
977	1997	Epoxy O/L
983	1989	membrane/ACP
992	1993	Epoxy O/L
1053	1997	SF Conc O/L
1062	1997	FRSF O/L
1085	1993	FRSF O/L
1145	1989	membrane/ACP
1153	1985	Epoxy O/L
1158	1989	membrane/ACP
1227	1988	Epoxy O/L
1245	1981	HD Conc O/L
1303	1979	HD Conc O/L
1409	1993	Epoxy O/L
1427	1988	membrane/ACP
1493	1988	Epoxy O/L
1517	1978	membrane/ACP
1664	1994	FRSF O/L
1741	1992	Epoxy O/L
1766	1995	SF Conc O/L
1767	1991	membrane/ACP

FileNumber	YearOf FirstRehab	Description
74602E	1989	CP
74653	1985	HD Conc O/L
74678	1978	HD Conc O/L
74679	1978	HD Conc O/L
74710	1995	FRSF O/L
74954	1975	HD Conc O/L
74969	1992	FRSF O/L
74978W	1992	CP
74978E	1988	CP
75014	1983	HD Conc O/L
75016	1981	HD Conc O/L
75051N	1981	HD Conc O/L
75051S	1981	HD Conc O/L
75054	1987	CP
75055N	1980	HD Conc O/L
75055S	1980	HD Conc O/L
75058N	1980	HD Conc O/L
75058S	1980	HD Conc O/L
75070	1987	Epoxy O/L
75111	1986	HD Conc O/L
75112	1987	CP
75186	1986	HD Conc O/L
75187	1993	FRSF O/L
75193W	1985	HD Conc O/L
75193E	1985	HD Conc O/L
75195W	1982	HD Conc O/L
75195E	1982	HD Conc O/L
75197	1990	CP
75217	1984	latex overlay
75305	1992	Epoxy O/L
75331S	1975	CP
75332N	1997	SF Conc O/L
75332S	1991	sealed
75335N	1996	SF Conc O/L
75335S	1996	SF Conc O/L
75336	1990	CP
75337N	1989	CP
75337S	1989	CP
75338N	1993	FRSF O/L
75338S	1993	FRSF O/L
75339N	1988	CP
75339S	1988	CP
75340N	1995	SF Conc O/L

FileNumber	YearOf FirstRehab	Description
1797	2000	FRSF O/L
1894	1995	SF Conc O/L
1916	1994	FRSF O/L
1980	1984	Epoxy O/L
2008	1986	FRSF O/L
2010	1990	Epoxy O/L
2047	1995	FRSF O/L
2143	1997	FRSF O/L
2155	1988	sealed
2212	1980	membrane/ACP
2233	1981	HD Conc O/L
2235	1980	HD Conc O/L
2359	1983	HD Conc O/L
2401	1993	FRSF O/L
2430	1981	HD Conc O/L
2431	1988	membrane/ACP
2487	1982	HD Conc O/L
6548	1980	Concrete
6565	1979	Concrete
6985W	1978	HD Conc O/L
7109	1986	FRSF O/L
7461	1987	FRSF O/L
7475	1993	Epoxy O/L
7513	1991	Conc O/L
7553	1982	HD Conc O/L
7802	1981	HD Conc O/L
7815	1989	sealed
7836	1992	FRSF O/L
7870	1991	Epoxy O/L
7978	1987	Epoxy O/L
8028	1985	HD Conc O/L
8036	1981	HD Conc O/L
8174	1991	Epoxy O/L
8303	1988	sealed
8435E	1987	membrane/ACP
8495	1986	HD Conc O/L
8641	1995	FRSF O/L
8719	1985	HD Conc O/L
9099	1992	FRSF O/L
9204	1995	membrane/ACP
9219E	1993	HD Conc O/L
9259	1996	FRSF O/L
9337	1990	membrane/ACP
9469N	1979	HD Conc O/L
9469S	1979	HD Conc O/L

FileNumber	YearOf FirstRehab	Description
75341	1992	Epoxy O/L
75383	1994	FRSF O/L
75420W	1982	HD Conc O/L
75498	1989	CP
75522	1990	HD Conc O/L
75535N	1996	SF Conc O/L
75535S	1996	SF Conc O/L
75538	1994	FRSF O/L
75539	1998	FRSF O/L
75543W	1995	FRSF O/L
75543E	1995	FRSF O/L
75555	1980	HD Conc O/L
75623N	1988	Epoxy O/L
75623S	1995	FRSF O/L
75644	1986	CP
75651N	1991	sealed
75651S	1991	sealed
75661N	1998	Epoxy O/L
75661S	1998	Epoxy O/L
75667	1989	CP
75677	1982	HD Conc O/L
75678	1988	CP
75701	1995	FRSF O/L
75707S	1989	CP
75722	1992	CP
75724	1987	CP
75725	1989	CP
75744	1987	CP
75754	1994	FRSF O/L
75760	1995	FRSF O/L
75816	1997	SF Conc O/L
75919S	1991	CP
75929	1987	sealed
75931	1992	FRSF O/L
75932	1984	HD Conc O/L
75945	1995	FRSF O/L
75946	1982	HD Conc O/L
75994	1990	CP
76034	1990	Epoxy O/L
76054N	1986	HD Conc O/L
76056	1993	FRSF O/L
76057	1988	Epoxy O/L
76059	1993	FRSF O/L
76060	1993	Epoxy O/L
76061	1990	Epoxy O/L

FileNumber	YearOf FirstRehab	Description
9487	1970	membrane/ACP
9551	1982	HD Conc O/L
9596	1982	membrane/ACP
9847	1987	Epoxy O/L
9899	1991	membrane/ACP
9903	1991	Conc O/L
9910	1981	HD Conc O/L
9943	1989	Sealed
13117	1979	HD Conc O/L
13181	1994	FRSF O/L
13370	1986	HD Conc O/L
13384	1986	Epoxy O/L
13486	1981	membrane/ACP
13587	1990	membrane/ACP
13625	1996	FRSF O/L
13742	1991	membrane/ACP
13821	1990	FRSF O/L
13824	1988	Concrete
13832	1989	Epoxy O/L
13838	1988	membrane/ACP
13852	1966	Epoxy O/L
70009	1986	HD Conc O/L
70022	1984	HD Conc O/L
70156	1979	HD Conc O/L
70241	1990	Epoxy O/L
70247	1991	Conc O/L
70277	1994	FRSF O/L
70318	1989	Epoxy O/L
70566	1989	membrane/ACP
70580	1995	FRSF O/L
70594	1981	HD Conc O/L
70626	1992	FRSF O/L
70935	1984	HD Conc O/L
71019	1990	Epoxy O/L
71054	1997	FRSF O/L
71116	1978	HD Conc O/L
71145	1978	membrane/ACP
71291	1995	FRSF O/L
71313	1987	Epoxy O/L
71315	1988	Epoxy O/L
71316	1988	Epoxy O/L
71429	1998	Epoxy O/L
71504	1990	Deck Sealed
72007W	1981	Superstructure
72094	1981	HD Conc O/L

FileNumber	YearOf FirstRehab	Description
76063	1995	FRSF O/L
76092	1998	SF Conc O/L
76093W	1995	SF Conc O/L
76093E	1995	SF Conc O/L
76094	1995	FRSF O/L
76109	1987	CP
76117	1994	Epoxy O/L
76118	1994	Epoxy O/L
76128	1996	SF Conc O/L
76159	1997	MMA O/L
76177	1987	CP
76181W	1995	SF Conc O/L
76181E	1995	SF Conc O/L
76185	1988	Deck Sealed
76186	1990	sealed
76212	1992	FRSF O/L
76223	1995	FRSF O/L
76301	1997	Epoxy O/L
76339W	1996	FRSF O/L
76339E	1996	FRSF O/L
76378	1997	FRSF O/L
76381	1992	FRSF O/L
76382N	1994	FRSF O/L
76392	1995	FRSF O/L
76410	1986	CP
76528	1995	FRSF O/L
76540	1987	CP
76558	1994	FRSF O/L
76566	1995	FRSF O/L
76609	1989	CP
76615	1987	sealed
76625	1990	CP
76639	1995	FRSF O/L
76646W	1995	SF Conc O/L
76646E	1995	SF Conc O/L
76648	1993	FRSF O/L
76649W	1992	FRSF O/L
76650N	1994	FRSF O/L
76650S	1992	FRSF O/L
76652	1982	HD Conc O/L
76658	1995	FRSF O/L
76659	1989	CP
76660	1989	CP
76669	1993	FRSF O/L
76686	1986	Epoxy O/L

FileNumber	YearOf FirstRehab	Description
74217	1979	HD Conc O/L
72128	1986	Epoxy O/L
72467	1995	FRSF O/L
72533S	1988	membrane/ACP
72551N	1981	HD Conc O/L
72551S	1981	HD Conc O/L
72810W	1998	Epoxy O/L
72810E	1998	Epoxy O/L
72819	1996	Epoxy O/L
73275	1979	HD Conc O/L
73275	1989	Epoxy O/L
73277	1996	FRSF O/L
73407	1985	HD Conc O/L
73410	1991	Epoxy O/L
74137	1996	FRSF O/L
73425	1991	Epoxy O/L
73426	1981	HD Conc O/L
73429	1985	Epoxy O/L
73485	1987	Epoxy O/L
73621	1987	membrane/ACP
73636	1986	membrane/ACP
73637	1988	membrane/ACP
73640	1978	HD Conc O/L
73757	1986	membrane/ACP
73779	1993	FRSF O/L
73810W	1982	HD Conc O/L
73819	1980	Deck Rehab
73823E	1991	Epoxy O/L
73836	1984	HD Conc O/L
73837	1999	SF Conc O/L
73919	1985	HD Conc O/L
73920W	1990	Sealed
73922	1989	membrane/ACP
73924	1987	membrane/ACP
73949	1978	HD Conc O/L
74031N	1986	membrane/ACP
74217	1979	HD Conc O/L
74222	1989	membrane/ACP
74227	1992	FRSF O/L
74228	1982	HD Conc O/L
74229	1977	HD Conc O/L
74232	1993	FRSF O/L
74233	1981	HD Conc O/L
74236	1992	FRSF O/L
74352W	1984	HD Conc O/L

FileNumber	YearOf FirstRehab	Description
76719	1987	Epoxy O/L
76845	1980	HD Conc O/L
76848	1989	Epoxy O/L
76850	1998	FRSF O/L
76927	1995	FRSF O/L
77054E	1988	CP
77083	1989	CP
77088	1987	sealed
77090W	1988	CP
77090E	1988	CP
77091W	1997	FRSF O/L
77091E	1997	FRSF O/L
77091WC	1997	FRSF O/L
77126	1991	FRSF O/L
77129	1995	FRSF O/L
77177	1993	FRSF O/L
77254	1987	CP
77303N	1981	HD Conc O/L
77303S	1981	HD Conc O/L
77315	1990	sealed
77349	1997	Epoxy O/L
77389W	1980	CP
77389E	1980	CP
77460	1991	Epoxy O/L
77466	1990	FRSF O/L
77471	1997	SF Conc O/L
77486	1994	FRSF O/L
77487	1995	FRSF O/L
77504E	1988	CP
77521	1988	CP
77528W	1985	FRSF O/L
77530	1987	CP
77534	1988	CP
77541	1998	MMA O/L
77546	1988	Epoxy O/L
77548	1992	Epoxy O/L
77556W	1995	CP
77556E	1995	CP
77753W	1991	CP
77782	1987	sealed
77847	1997	FRSF O/L
77859W	1992	membrane/A
77872	1990	sealed
77878	1995	FRSF O/L
77919	1996	Epoxy O/L

FileNumber	YearOf FirstRehab	Description
74352E	1988	membrane/ACP
74353W	1983	HD Conc O/L
74353E	1984	HD Conc O/L
74354W	1982	HD Conc O/L
74354E	1987	sealed
74355W	1990	Epoxy O/L
74355E	1986	membrane/ACP
74381	1980	HD Conc O/L
74426	1993	FRSF O/L
74440	1977	HD Conc O/L
74452	1979	HD Conc O/L
74458S	1978	HDF Conc O/L
74540	1995	FRSF O/L
74596	1994	FRSF O/L
74600W	1988	FRSF O/L

FileNumber	YearOf FirstRehab	Description
78031	1995	Deck Sealed
78104	1995	FRSF O/L
78123	1982	HD Conc O/L
78170	1982	HD Conc O/L
78199	1993	Epoxy O/L
78204	1985	HD Conc O/L
78215	1993	Epoxy O/L
78896	1995	FRSF O/L
79325	1998	Epoxy O/L
79441N	1998	Epoxy O/L
79441S	1998	Epoxy O/L
79564	1996	SF Conc O/L
79657	1992	Epoxy O/L
81131	1988	CP